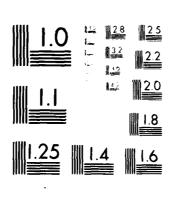
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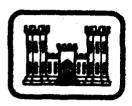
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EFFECTS OF CLOSING WAX LAKE OUTLET AND CONSTRUCTING MANAGEMENT UNIT AND CHANNEL TRAINING LEVEES IN THE ATCHAFALAYA RIVER BASIN

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MISSISSIPPI BASIN MODEL REPORT 31-8

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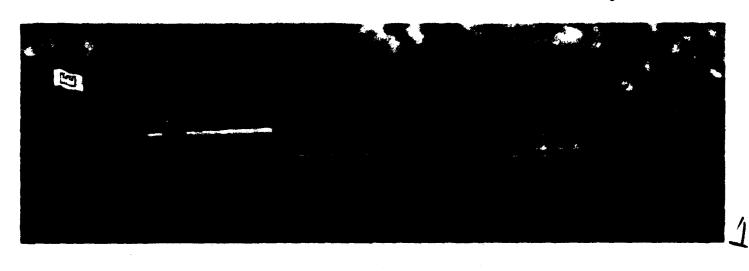
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Hydraulies Laboratory
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P. O. Best 631, Victoburg, Miss. 39180

November 1980 Float Report

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Prepared for U. S. Army Engineer District, New Orleans P. O. Ben 60267, New Orleans, La. 70160 Univ LANSED-79-46



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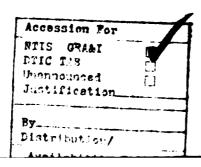
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20. ABSTRACT (Continued).

>50,000 cfs). The maximum amount of rise in stages progressively increased with flow until the closure levee was overtopped and then decreased for overtopping flows. Model results also indicated that: constructing Buffalo Cove management unit levee would have no effect on average annual crest stages except in the West Atchafalaya basin upstream of the unit; constructing Upper Belle management unit levee would increase average annual crest stages in the East Atchafalaya basin upstream of the unit and in the West Atchafalaya basin just upstream of and along the unit; and constructing Atchafalaya River training levees would increase average annual crest stages in the West Atchafalaya basin by as much as 1.1 ft and lower those in the East Atchafalaya basin by as much as 0.6 ft.

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EFFECTS OF CLOSING WAX LAKE OUTLET AND CONSTRUCTING MANAGEMENT UNIT AND CHANNEL TRAINING LEVEES IN THE ATCHAFALAYA RIVER BASIN

Introduction

1. The U. S. Army Engineer District, New Orleans (LMN), requested the tests reported herein during a conference at the U. S. Army Engineer Waterways Experiment Station (WES) with personnel from the Lower Mississippi Valley Division, LMN, and WES on 13 November 1978. Funds for the study were authorized in Intra-Army Order LMNED-79-46, dated 19 January 1979. The tests were conducted on the Mississippi Basin Model (MBM) at the Jackson Installation of WES during the period February 1979-May 1979.

The Model

- 2. The tests were conducted on the Atchafalaya River basin portion of the MBM (Plate 1). The model is of the fixed-bed type, reproducing a large portion of the Mississippi River and its major tributary system to a horizontal scale of 1:2000 and a vertical scale of 1:100. General features of this model, including appurtenances, instrumentation, and operating procedures are discussed in detail in MBM Report 1-4, Description of the Mississippi Basin Model, dated 18 July 1951.
- 3. The purpose of this study was to aid in developing rating curves and water-surface profiles in the Atchafalaya River basin for various flow conditions with and without the Wax Lake Outlet closed and with and without Land and Water Management Unit and channel training levees. The tests also were to give LMN personnel an opportunity to observe flow patterns throughout the basin for the various flows with different conditions. Some of the data obtained from the tests will be used to recode for the analytical flow routing using the HEC6 program.
- 4. Prior to these tests, the Atchafalaya River basin portion of the model from Simmesport to Eugene Island, La., had been updated to reflect 1973-74 prototype conditions and adjusted to reproduce closely the stages

that occurred in 1973. The results of the adjustment were presented in a letter report to LMN dated 23 January 1978, subject: Results of Tests of the Average Annual Hydrograph in the Atchafalaya River Basin.

Test Procedure

5. This study consisted of seven steady-flow tests and eleven hydrograph tests with the Wax Lake Outlet open (1973-74 conditions), with Wax Lake Outlet closed, with Buffalo Cove Management Unit levee, with Upper Belle Management Unit levee, and with the Atachfalaya River training levees. Test conditions are given in the following paragraphs and in Table 1.

Steady Flow Tests

Description

6. With the model to 1973-74 conditions (Wax Lake Outlet open), steady flows equivalent to prototype flows of 50,000; 100,000; 200,000; 350,000; 425,000; 600,000; and 800,000 cfs were introduced at Simmesport on the Atchafalaya River and routed to Eugene Island where the water surface was held to 0.0-ft mean sea level (msl). Wax Lake Outlet was closed with a levee to the alignment and grades shown in Plate 2 and these flows were again introduced and routed to Eugene Island where the water surface was again held to 0.0 ft msl. Elevations of this levee were determined on the model to confine a flow of 550,000 cfs but allow a 600,000 cfs flow to overtop the levee for its entire length. Water-surface elevations were recorded for all tests at the gaging station shown in Plate 1. The gaging station locations for each unit area are shown in the specific area maps (Plates 2-4).

Results

7. The results of these tests, listed in Table 2, indicate that closing the Wax Lake Outlet with a levee as tested would raise stages throughout the basin upstream of the closure levee and lower stages in Wax Lake Outlet downstream of the levee for all flows tested. Closing Wax Lake Outlet raised stages as far upstream as Simmesport (0.1 ft) for the lowest flow tested (50,000 cfs). The maximum amount of rise in stages progressively increased

with flow until the closure levee was overtopped (from 0.3 ft for a flow of 50,000 cfs to 3.2 ft for a flow of 425,000 cfs), then decreased for flows that overtopped the closure levee (2.2 ft for a flow of 600,000 cfs and 0.5 ft for a flow of 800,000 cfs). The maximum increase for all flows was at the latitude of Charenton, La.

Hydrograph Tests

Description

- 8. With the model to 1973-74 conditions (Wax Lake Outlet open and carrying approximately 30 percent of the Atchafalaya River basin flow), four hydrograph flows (Tests 1A-4A in Plates 5-7) were introduced at Simmesport and routed to Eugene Island where the water surface was held to 0.0-ft msl. These four hydrographs were variations of an Atchafalaya River average annual hydrograph developed by LMN from prototype data for the period 1950-1974. The four variations resulted from assuming different distributions of the total flow at the latitude of Red River Landing between the Mississippi and Old Rivers. Test 1 assumed 40 percent of the flow to be in Old River and 60 percent in the Mississippi River. This resulted in a crest discharge at Simmesport of 565,000 cfs. Test 2 assumed Old River to be carrying 30 percent and the Mississippi to be carrying 70 percent, resulting in a crest dischage at Simmesport of 450,000 cfs. Test 3 assumed the flow through Old River to be controlled to maintain a stage of 35-ft msl or below at Acme, La., without exceeding a 20-ft water-surface differential at Old River control structure. The crest flow at Simmesport for this test was 345,000 cfs. Test 4, with a crest discharge at Simmesport of 337,500 cfs, assumed the flow through Old River to be controlled to maintain a stage of 35-ft msl or below at Acme, La., without considering water-surface differential at Old River control structure. With Wax Lake Outlet closed as for the steady-flow tests, these same hydrographs were introduced at Simmesport and routed to Eugene Island where the water surface was again held to 0.0-ft msl (Test 1B-4B).
- 9. The flows for Test 2 were also tested with: the model to 1973-74 conditions with the Buffalo Cove Management Unit levee, including inflow and outflow channels, installed as shown in Plate 3 (Test 2C); with the model to

1973-74 conditions and Upper Belle Management Unit levee installed as shown in Plate 4 (Test 2D); and with the model to 1973-74 conditions with the Atchafalaya River training levees installed as shown in Plate 4 (Test 2E). The elevations for the Buffalo Cove Management Unit levee were determined on the model to just contain a steady flow of 350,000 cfs. The entrance channel to this unit was 120 ft wide at 9-ft msl with one-on-three side slopes. The exit channel was 40 ft wide at 0.0-ft msl with one-on-three side slopes. The alignments for these levees and the elevations of the Upper Belle Management Unit levee and the Atchafalaya River training levees were furnished by LMN. Water-surface elevations were recorded at the gaging stations shown in Plate 1 and discharge hydrographs were obtained at Eugene Island for all hydrograph tests.

Results

10. The results of the hydrograph tests are presented in Table 3 and shown in Plates 8-160. These results indicate that the closure of Wax Lake Outlet would have about the same effect on crest stages of the hydrograph flows as it did on the steady flows of the same magnitude. Closing Wax Lake Outlet increased crest stages for Tests 3 and 4 a maximum of 2.3 ft, which was about the same as for a steady flow of 350,000 cfs, and 2.9 ft for Test 2, which was about the same as for a steady flow of 425,000 cfs. The maximum increase in stage (3.4 ft) occurred at the crest of Test 1 when the discharge just overtopped the closure levee.

Conclusions

- 11. A comparison of results of Test 2C with those of Test 2A indicates that constructing Buffalo Cove Management Unit levee (Plate 3) would have no effect on stages of the Average Annual Hydrograph except in the West Atachfalaya basin upstream of the unit. The maximum increase in crest stages was 1.6 ft at Lower Grand Bayou.
- 12. Constructing Upper Belle Management Unit levee (Plate 4) would increase crest stages of the Average Annual Hydrograph in the East Atchafalaya basin upstream of the unit and in the West Atchafalaya basin just upstream

and along the unit (Test 2D versus 2C). The maximum increase was 1.9 ft at Bayou Sorrel.

13. Constructing the Atachafalaya River training levees (Plate 4) would increase crest stages of the average annual hydrograph in the main channel and in the West Atchafalaya basin by as much as 1.1 ft and lower those in the East Atchafalaya basin by as much as 0.6 ft.

Table 1
Test Conditions

Test	Average Annual Flows at Simmesport, LA, with	Water-Surface Elev. in ft msl held at Eugene Island	Wax Lake Outlet	Conditions in Basin
1A	Miss. R. Flow-60%(1) Old R. Flow -40%	0.0	Open(2)	1973-74
18	Miss. R. Flow-60%(1) Old R. Flow -40%	0.0	Closed(3)	1973-74
2A	Miss. R. Flow-70%(1) Old R. Flow -30%	0.0	Open(2)	1973-74
2B	Miss. R. Flow-70%(1) Old R. Flow -30%	0.0	Closed(3)	1973-74
2C	Miss. R. Flow-70%(1) Old R. Flow -30%	0.0	Open(2)	(6)
2D	Miss. R. Flow-70%(1) Old R. Flow -30%	0.0	Open(2)	(7)
2E	Miss. R. Flow-70%(1) Old R. Flow -30%	0.0	Open(2)	(8)
3A	35-ft plan at ACME(4) with head restriction at Old R. Channel Structure	0.0	Open(2)	1973-74
3B	35-ft plan at ACME(4) with head restriction at Old R. Channel Structure	0.0	Closed(3)	1973-74
4A	35-ft plan at ACME(5) without head restriction at Old R. Channel Structure	0.0	Open(2)	1973-74
4B	35-ft plan at ACME(5) without head restriction at Old R. Channel Structure	0.0	Closed(3)	1973-74

(Sheet 1 of 2)

Table 1 (Notes)

- (1) Distribution of flow at latitude of Red River Landing.
- (2) Wax Lake Outlet open as during the 1973 flood with approximately 30% of the Atchafalaya River Basin flow passing Calumet, LA.
- (3) Wax Lake Outlet closed by a levee to an elevation that contained a flow of 550,000 cfs but was overtopped with a flow of 600,000 cfs. See Plate 2 for levee location and grade.
- (4) Flow through Old River controlled to maintain a stage at Acme, LA, of 35 ft msl or below without exceeding a 20-ft water-surface differential at Old River Channel Structure.
- (5) Flow through Old River controlled to maintain a stage at Acme, LA, of 35 ft msl or below without considering water-surface differential at Old River Channel Structure.
- (6) Conditions in the basin were the same as those for 1973-74 except the Buffalo Cove Management Unit levee with inflow and outflow channels was installed. See Plate 3 for location and grades.
- (7) Conditions in the basin were the same as those for 1973-74 except the upper Belle Management Unit levee was installed. See Plate 4 for location and grades.
- (8) Conditions in the basin were the same as those for 1973-74 except the Atchafalaya River Channel training levees were installed. See Plate 4 for location and grades.

(Continued)

Table 2 Water-Surface Elevations Steady Flow Tests

	1963	Water	Surface -	Wax	Lake Outlet	Open &	Closed - S	Steady Flows	ows of
	River	50,000	0 cfs	100,00		200,000	cfs	350,000	o cfs
Gaging Station	Mile	Open	Closed	0pen	Closed	Open	Closed	Open	los
	Main Ch	Channel and	Center	Portion	of Floodway	- 1			
Simmesport	6.9	5.1	5.2	10.8	11.2	20.8	21.3	33.2	33.5
Woodside	14.5	3.2	3.4		9.1	18.6	19.1		30.8
Melville	29.5	2.6	2.8		7.8	15.6	16.4		26.3
Krotz Springs	41.3	2.4	2.6	6.3	7.1		15.0	23.5	
Courtabeleau	78.7	2.3	2.5	•	7.0	13.5	14.4		22.7
WBPC	55.7		2.4	•	6.7	12.7	13.7	٠.	•
Desglaise	58.2		2.4		9.9	12.4	13.4	19.8	•
WBPC #175	9.09		2.4	•	6.5	12.2	13.2		
Rycade	62.5		2.4	•	•	12.1	13.1	•	20.0
Upper Grand No. 5	64.3		2.4	•	6.4	11.8	12.8	•	19.4
L. Tensas Bayou No. 9	71.5		2.4	5.3	6.2	11.2	12.2	17.2	18.0
R. 22BC	77.8		2.1	•		10.0	11.2		16.2
Lake Chicot No. 15	79.4		2.0	4.3		9.6	10.7		15.8
Chicot Pass Mi. 83.2	83.2	•	1.8	•		8.9	10.4		15.3
Chicot Pass	89.8	1.4	1.7			7.2	0.6	11.6	13.3
Myette Point	95.4	•	1.5	3.0		6.4	•		12.3
Morgan City	117.7	•	0.5			1.9	2.8	•	8.8
Sweet Bay Lake	129.5	0.4	7.0	9.0	6.0	1.5	1.7	2.6	3.1
Mo. Atch. River	133.9	•	0.3			0.8	1.0		1.5
Eugene Island	146.0	•	0.0	•		0.0	0.0	0.0	0.0
Keel Boat Pass		9.0	9.0			4.1		7.2	9.7
Little Tensas Bayou		1.7	2.1	4.7	5.7	10.1	11.1	14.7	15.1
Atchafalaya	59.3	2.0	2.3	•	5.4	12.4	13.4	19.7	20.3
Butte La. Rose	8.49			5.5	•	12.1	13.1		19.4
La. Rompe No. 6	9.69				4.9	•	•	18.5	19.1
La. Rompe No. 10	74.1		2.2	•	۴.۱	11.2	12.2	16.9	17.6

Table 2 (Continued)

Gaging Station	í						
Gaging Station	River	425,000	octs	000,009	00 cfs	800,000	00 cfs
	Mile	Open	los	Open		Open	los
Simmesport	6.9	38.5	38.5	48.5	48.5	57.1	57.1
Woodside	14.5	35.7	35.7	45.6	45.6	53.5	53.5
Melville	29.5	30.5	30.5	39.1	39.1	46.3	46.3
Krotz Springs	41.3	27.4	27.6	34.6	34.7	40.1	40.1
Courtabeleau	7.87	25.7	76.0	31.7	31.9	36.5	36.5
WBPC	55.7	23.7	24.0	28.3	28.5	30.8	30.8
Desglaise	58.2	22.8	23.1	27.1	27.3	29.1	29.1
WBPC #175	9.09	22.3	22.6	26.2	26.4	28.5	28.5
Rycade	62.5	21.9	22.2	25.5	25.7	27.3	27.3
Upper Grande No. 5	64.3	21.3	21.6	24.7	24.9	26.1	26.1
L. Tensas Bayou No. 9	71.5	19.4	19.7	21.8	22.2	23.3	23.3
R. 22BC	77.8	16.9	17.6	18.8	19.3	20.0	20.0
icot No.	79.4	16.5	17.2	18.4	18.9	19.8	19.8
Chicot Pass Mi. 83.2	83.2	15.5	16.2	•	18.0	<u>⊙</u>	19.6
Chicot Pass	86.8	13.3	14.9	15.8	16.9	17.6	17.9
Myette Point	95.4	11.7	13.7	14.1		16.6	16.9
Morgan City	117.7	5.4	7.1		8.9	10.0	10.0
Sweet Bay Lake	129.5	3.2	•	4.2	4.7	5.7	5.7
Mo. Atch. River	•	1.5	1.7	1.8	•	2.3	2.3
Eugene Island	146.0	0.0	0.0	0.0	•	0.0	0.0
Keel Boat Pass		8.8	11.8	12.7	15.0	17.0	17.3
Little Tensas Bayou		16.0	16.4	17.7		21.4	21.4
Atchafalaya	59.3	22.7	23.0	27.0		29.7	29.7
Butte La. Rose	8.49	21.3	21.6	25.3	25.5	27.4	27.4
La. Rompe No. 6		20.9	21.3	24.6	24.8	26.5	26.5
La. Rompe No. 10	74.1	18.5	19.2	21.4	21.7	22.7	

Table 2 (Continued)

	River	50.0	50,000 cfs	100 00	In ofe	000	i	350 000	00
Gaging Station	Mile	Open	Closed	Open	Open Closed	Open	Open Closed	Open	Onen Closed
		East	Atchafalaya	ya Floudway	/ay				
Ramah	1630+00	;	;	4.7	5.3	6.6	10.7	13.6	13.9
Upper Grand R.	2439+00	0.9	0.9	2.7	3.3	9.3	10.1	12.4	- 1
Dayou Sorrel	2984+00	0.8	8.0	1.6	2.1	8.4	5.6	7.7	1 30 10 00 1
Bayou Pigeon	770+00	0.8	0.8	1.5	2.0	4.5	, di	7.5	, x
Old River	1344+00	0.7	0.7	1.3	1.8	გ	5.1	0.7	, d
Belle River	1546+00	0.7	0.7	1.3	1.8	3.4	4.7	6.5	
L. Bayou Sorrel	1999+00	9.0	0.7	1.3	8.1	2.8	3.0	5.8	8.0
	East A	tchafal	East Atchafalaya Floodway		Management Units	s s (
Upper Bayou Des Glaise Unit		1	1	ł	;	1	!	1 . 1	~
Bayou Des Glaise Unit		1	;	ţ	;	9.5	10.2	13.1	13.5
Pigeon Bay		ì	!	ł I	1	;	8.8	ः =	11.6
Flat Lake		İ	9.0	1.5	2.0	4.7	5.7	7.6	8
R. No.		<i>ن</i> 8:0	6.0	1.7	2.2	4.1	5.3	7.1	9.6
Upper Belle R. No. 2		0.5	0.5	6.0	1.2	2.5	4.0	5.7	8.2
		West	Atchafalaya	va Floodway	'ay				
Cleon	2730+00	{	!	;	;	11.8	5	17.0	17 1
Bayou Mersier	3246+00	2.9	2.9	5.5	6.3	11.8	12.8	17.0	1 2 -
Lower Crand Bayou	3937+00	1.6	1.8	3.5	7.7	7.5	7.6	12.6	
Upper Grand Lake	4375+00	1.4	4.6	3.2	4.2	6.6		1.11	1.10
Charenton	4707+00	1.1	1.4	2.9	4.0	6.2	8,5	10.4	12.7
Six Mile Lake	2495+00	0.3	0.0	1.0	0.0	3.1	0.0	6.7	9.0
Calumet	111.1	0.3	0.0	9.0	0.0	1.3	0.0	4.5	0.6
Wax Lake Outlet	121.8	0.0	C	,	0		· c		

Table 2 (Continued)

	1963	Water S.	Surface-Wax Take Outlet Onen	ake Out le	A Chen A	Closed-Steady Flows	adv Flows of
	River		425,000 cfs	900,009	1	800,0	
Gaging Station	Mile	0pen	Closed	Open	Closed	Open	Closed
		East Atch	Atchafalaya Flo	Floodway			
Ramah	1630+00	14.9	15.3	17.4	18.1	21.8	21.8
Upper Grand R.	2439+00	14.2	14.6	16.4	17.1	19.7	19.7
Bayou Sorrel	2984+00	7.6	11.8	12.8	15.0	17.2	17.4
Bayou Pigeon	770+00	9.0	11.8	12.8	14.9	16.9	17.2
Old River	1344+00	8.8	11.6	12.2	14.3	16.0	16.3
Belle River	1546+00	8.2	11.0	11.4	13.7	15.1	15.4
L. Bayou Sorrel	1999+00	7.1	6.6	10.4	12.4	13.7	13.8
	East Atchafalaya		Floodway Management Units	agement Ur	nits		
Upper Bayou Des Glaise Unit		14.4	14.8	17.1	17.6	21.5	21.5
Bayou Des Glaise Unit		14.4	14.8	17.0	17.6	21.4	21.4
Pigeon Bay		11.7	13.0	14.1	16.0	18.4	18.7
Flat Lake		9.5	11.9	12.8	15.1	17.1	17.5
Upper Belle R. No. 1		8.6	11.8	12.3	14.8	16.2	16.7
Upper Belle R. No. 2		7.3	10.1	10.5	12.7	14.0	14.1
	12	West Atchafalaya		Floodway			
Cleon	2730+00	18.0	18.2	19.6	19.8	22.6	22.6
Bayou Mersier	3246+00	18.0	18.2	19.6	19.8	22.6	22.6
Lower Grand Bayou	3937+00	14.7	16.2	18.1	18.7	20.5	20.5
Upper Grand Lake	4375+00	13.0	14.7	15.8	16.7	17.9	18.2
Charenton	4707+00	12.5	14.3	15.0	16.1	17.0	17.5
Six Mile Lake	2495+00	3.3	1.1	10.9	7.1	14.2	11.6
Calumet	111.1	5.8	1.1	8.0	4.4	10.3	10.1
Wax Lake Outlet	121.8	8.0	0.2	1.0	1.0	1.9	1.4
			1	1			

Table 2 (Concluded)

	1963	Water Surface -		Wax Lak	out le	t Open	S C103	base of	teady Flo	
Gaging Station	River	50,000 cfs Open Closed		100,000 cfs Open Closed	o cfs	ଧାର	200,000 Open C	Closed	100,000 cfs 200,000 cfs 350,000 cf Open Closed Open Closed Open Closed	00 :fs (losed
	West	West Atchafalaya Floodway Management Units	Floodway	Manager	ment Ur	its				
Henderson Unit		;		;	1	11	11.7	12.9	17.2	17.3
Warner Lake Unit				į	1	!	ı	!	1	1
Cocodrie Swamp		1		ł	\ 1	1		11.3	14.2	14.9
Beau Bayou		1		!	1	7	7.9	8.6	12.6	
Buffalo Swamp		!		4.0	4.4	۲,	7.0	0.6	11.5	-
Lower Buffalo Cove		;		l i	1	9	4.9	8.6	10.7	12.8
	1963	Water S	urface-Wa	ax Lake	Outlet	Open &	Close	d-Stea	Water Surface-Wax Lake Outlet Open & Closed-Steady Flows of	Į.
	River	425,0	425,000 cfs	9	600,000 cfs	cfs		800,000 cfs	0 cfs	
Gaging Station	Mile	Open	Open Closed	, O	Open C	Closed		Open	Open Closed	
	West A	West Atchafalaya Floodway Management Units	Floodway	Managen	nent Un	its				
Henderson Unit		18.1	18.4	•	19.7	20.0		22.6	22.6	
Warner Lake Unit				. •	24.8	25.1		27.6	27.6	
Cocodrie Swamp		15.8	16.7	-	19.2	19.7		22.3	22.3	
Beau Bayou		14.7	16.1		18.3	19.0		21.2	21.2	
Buffalo Swamp		13.7	15.3	_	17.1	17.8		19.1	19.2	
Lower Buffalo Cove		12.5	14.3		15.0	16.2		17.1	17.4	
		! ! !		1						

NOTE:

- Water-surface elevations are in ft msl. 2.
- Wax Lake Outlet Open as during the 1973 flood with approximately 30% of the Atchatalaya River Basin flow passing Calumet, La.
 - over-topped with a flow of 600,000 cfs. See Plate 2 for levee location and grade. - Closed by a levee to an elevation that contained a flow of 500,000 cfs but was
- East and West Atchafalaya gages are located along the levees. Management Unit gages are located about the center of the East and West Floodway.
- -- Denotes no water at the gage. . . .

Table 3 Crest Water-Surface Elevations Hydrograph Tests

	1963						1					
	River	Test	٦,			Test 2			Test	t 3	Test	\ †
Gaging Station	Mile	A	В	A	æ	0	۵	ы	A	8	P	ما
		Main Cha	Channel and	Center		Portion of	Floodwa	way				
Cimmonort	9	0 47	0 27	38	28	38	38 2	38	7 18	α γ	7 62	33 5
Wodeide	14.5	0 00 00 00 00 00 00 00 00 00 00 00 00 0	6.7		35.7			2 1	, σ, α	30.1		
Melville	29.5	37.7	37.7	30.1	30.4	30.1		30.1	25.3	25.7		25.3
Krotz Springs	41.3	33.4	33.4	27.2	27.5	27.2			22.9	23.4	22.5	23.0
Courtabeleau	48.4	31.0	31.0	25.5	25.8	25.5	25.5	•	21.6	22.0		21.6
WBPC	55.7	27.6	27.7	23.4	23.7	23.4	23.4		20.0	20.6	19.7	20.3
Desglaise	58.2	26.4	36.6	22.6	22.9	22.6		22.8	19.2	19.9	19.1	19.8
Upper Grand No. 5	64.3	24.4	24.7	21.1	21.6	21.1	21.1	21.5	18.2	18.9	18.0	18.7
L. Tensas Bayou No. 9	71.5	21.8	22.1	19.0	19.6	19.0	19.0	19.6	16.8	17.6	16.5	17.4
Lake Chicot No. 15	79.4	18.2	18.6	16.3	17.0	16.3	16.3	17.0	14.2	15.3	14.2	15.0
Chicot Pass	89.8	15.3	16.5	13.0	14.6	13.0	13.5	14.0	11.0	12.6	10.8	12.4
Myette Point	95.4	13.4	15.5	11.4	13.3	11.4	11.9	12.5	9.6	11.7	4.6	11.6
Morgan City	117.7	7.2	9.1	5.1	7.0	5.1		4.8	3.9	9.6	3.7	5.2
Sweet Bay Lake	129.5	4.0	6.4	3.1	3.8	3.1	3.1	3.1	2.4	3.2	÷.5	3.1
Mo. Atch. River	133.9	1.7	1.9	1.3	1.6	1.3	1.3	1.3	1.0	1.4	1.0	1. 3
Eugene Island	146.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Keel Boat Pass		11.8	15.1	8.6	11.3	8.6	7.4	8.0	6.8	9.0	6.7	8.8
Little Tensas Bayou		17.4	18.0	15.9	16.3	15.9	15.9	16.1	14.4	14.9	14.2	14.8
Atchafalaya		26.4	26.6	22.5	22.8	22.5	22.5	22.8	19.2	19.7	19.2	
Butte La. Rose	64.8	24.9	25.1	21.2	21.6	21.2	21.2	21.5	18.4	19.0	18.2	18.7
La. Rompe No. 6			24.5	20.6		20.6	20.6	21.0	18.0		17.7	18.3
La. Rompe No. 10			21.5	18.6	20.0	18.6	18.6	19.0	16.5	17.2	16.3	

(Sheet 1 of 3)

Table 3 (Continued)

	1963						-	1		!		,
Gaging Station	River	Test	B	A	В	Test	2 D	je j	Test	t 3	Test	ار مرا مرا ا
		East	Atchafalaya	laya Fl	Floodway							
Ramah	1630+00	16.4	17.5	14.5	14.9	14.5	14.5	14.5	13.3	13.6	13.1	13.6
Upper Grand R.	2439	15.6	16.7	13.7	14.2	13.7	13.7	13.7	12.5	12.9	12.4	12.9
Bayou Sorrel	2984	11.8	14.9	8.8	11.3	& &	10.7	8.6	7.2	0.6	7.0	8.8
Bayou Pigeon	770+00	11.7	15.0	8.7	11.3	8.7	8.7	8.2	7.2	0.6	7.0	8.8
Cld River	1344	11.2	14.6	8.2	11.0	8.2	7.7	7.7	9.9	8.7	6.4	8.4
Belle River	1546	10.6	14.0	7.7	10.6	7.7	7.4	7.2	6.1	8.3	5.8	8.0
L. Bayou Sorrell	1999+00	4.6	12.8	7.0	9.6	7.0	6.8	9.9	5.4	7.7	5.4	7.6
	East At	Atchafalaya		Floodway Ma	Management Unit	it Uni	ts }					
Upper Bayou Des Glaise Unit		15.8	17.0	14.0	14.4	14.0	14.0	14.0	12.6	12.8	11.8	12.3
Bayou Des Glaise Unit		15.8	17.0	13.9	14.4	13.9	13.9	13.9	12.6	13.0	12.4	12.9
Pigeon Bay		13.4	15.6	11.7	12.5	11.7	12.2	11.9	10.6	11.2	10.5	11.1
Flat Lake		11.7	15.0	8.8	11.4	8.8	10.6	8.4	7.3	0.6	7.0	χ. 8
Upper Belle R. No. 1		11.	14.7	8.3	11.2	~. ∞	7.7	7.7	6.7	9.0	6.5	x:
Upper Belle R. No. 2		8.6	13.0	6.9	8.6	6.9	6.7	6.5	5.4	7.7	5.1	·†
		Vest	Atchafalaya		Floodway							
Cleon	2730+00	18.0		17.2	17.7	17.7	17.2	17.2	15.8	16.1	15.2	15.6
Bayou Mersier	3246	18.2	18.4	17.8	18.1	17.8	17.8	18.0	16.6	16.9	16.4	16.8
Lower Grand Bayou	3937	17.5	18.4	14.3	15.6	15.9	14.6	14.8	11.8	13.4	11.8	13.4
Upper Grand Lake	4375	15.5	16.7	13.7	14.4	12.7	13.2	13.5	10.6	12.4	10.4	12.1
Charenton	4707	14.6	16.1	12.0	13.9	12.0	12.7	13.0	10.0	12.1	8.6	11.9
Six Mile Lake	2495	10.2	1.9	8.0	0.4	8.0	8.3	9.1	0.9	9.0	6.0	0 .4
Calumet	111.1	7.6	2.2	5.4	1.3	5.4	5.8	4.9	4.3	0.7	્ય . ત	8.0
Wax Lake Outlet	121.8	1.1	0.3	1.0	0.5	0.1	1.0	1.0	9.0	0.2	0.6	7.0

(Sheet ; of 3)

Table 3 (Concluded)

	1963		•	!	•	:	:		•			
	River	Test				Test	٥.		Tes	د ،	Tes	·†
Gaging Station	Mile	A B	احا	+	A B C D	ပ	a	ea	~	A B	. 	
		West Atchafalaya Floodway Management Units	falaya	Flood	vay Mar	lagemer	t Unit	σ, l				
Henderson Unit			€.	17.4	17.8	17.4	17.4	17.4	16.1	16.5	15.4	16.0
Warner Lake Unit			9.1	;	21.2	{	<i>†</i>	ţ	ļ	ł	1	(
Cocodrie Swamp		18.6 19	19.1	15.3	16.3	16.4	15.5	15.8	14.0	14.2	14.0	7.51
Beau Bayou			.5	14.4	15.6	16.3	14.7	15.0	12.2	13.4	12.2	13.2
Buffalo Swamp			.5	13.2	15.0	13.2	13.6	13.8	10.8	12.8	10.6	12.6
Lower Buffalo Cove				12.1	13.9	12.1	12.6	13.0	10.0	12.1	6.6	12.0

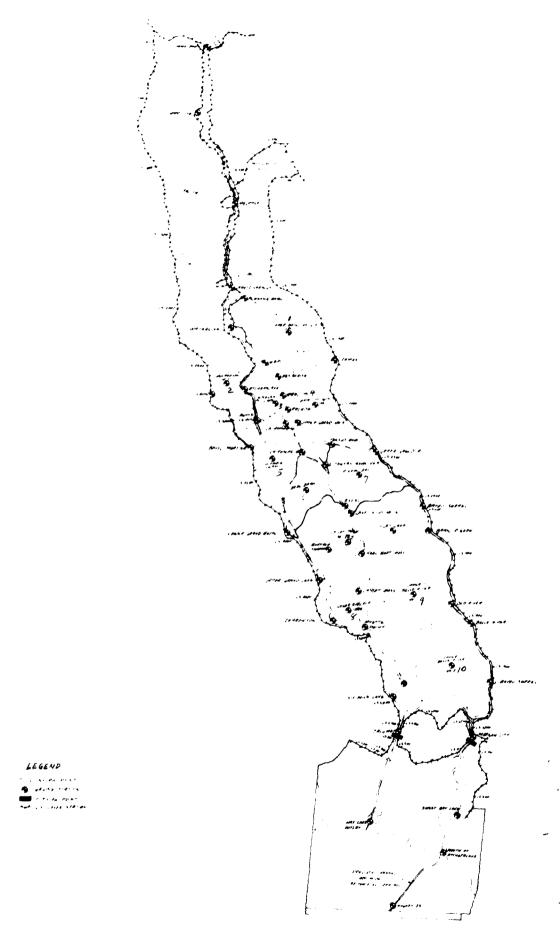
Wax Lake Outlet - Open as during the 1973 flood with approximately 30% of the Atchafalaya River Basin flow passing Calumet, LA. Water-surface elevations are in ft msl.
 Wax Lake Outlet - Open as during the 197

- Closed by a levee to an elevation that contained a flow of 500,000 cfs but was over-topped with a flow of 600,000 cfs. See Plate 2 for levee location and grade.

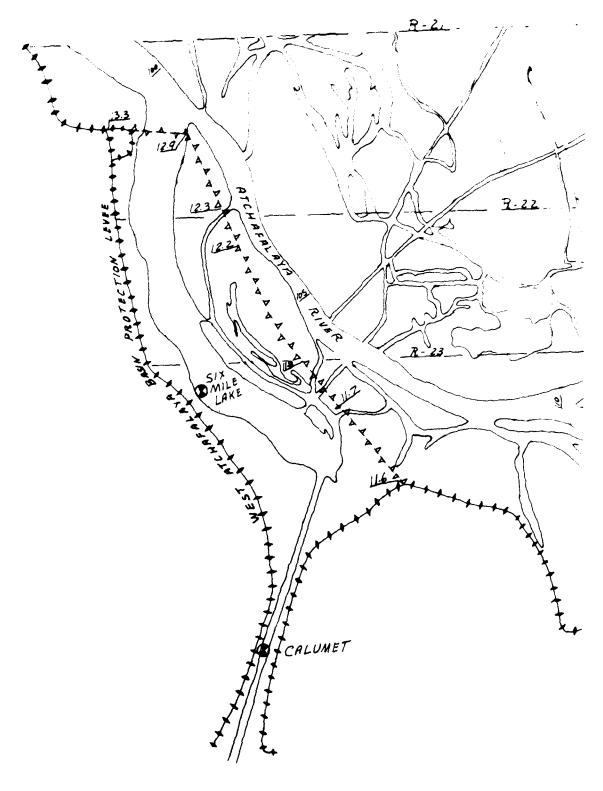
East and West Atchafalaya gages are located along the levees.

Management Unit gages are located about the center of the East and West Floodway. -- Denotes no water at the gage. . . .

(Sheet 3 of 3)



LOCATION MAP



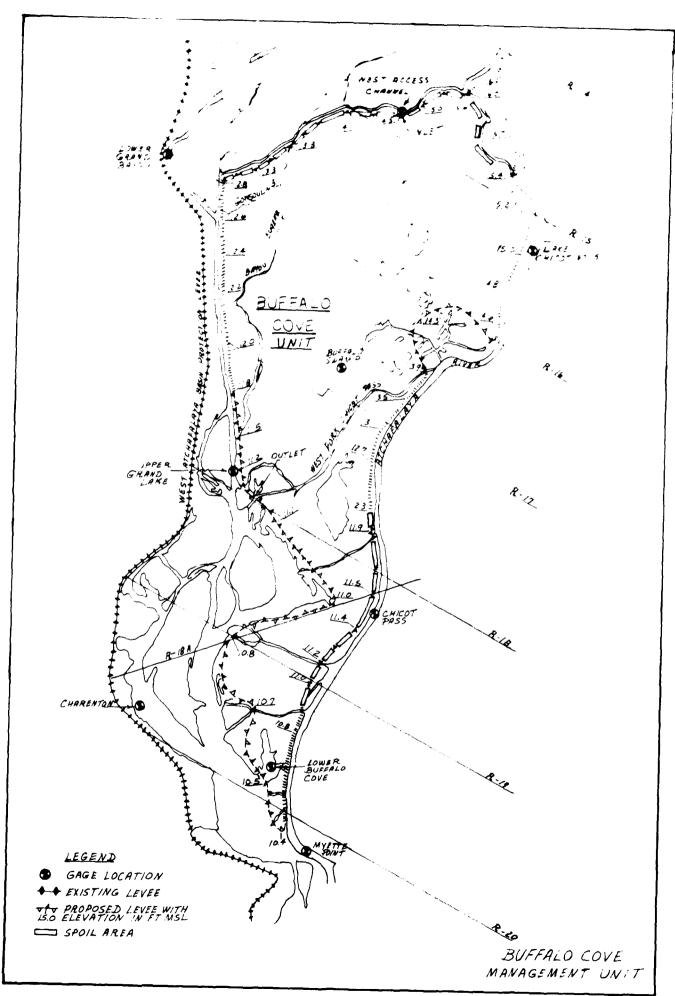
GAGE LOCATION

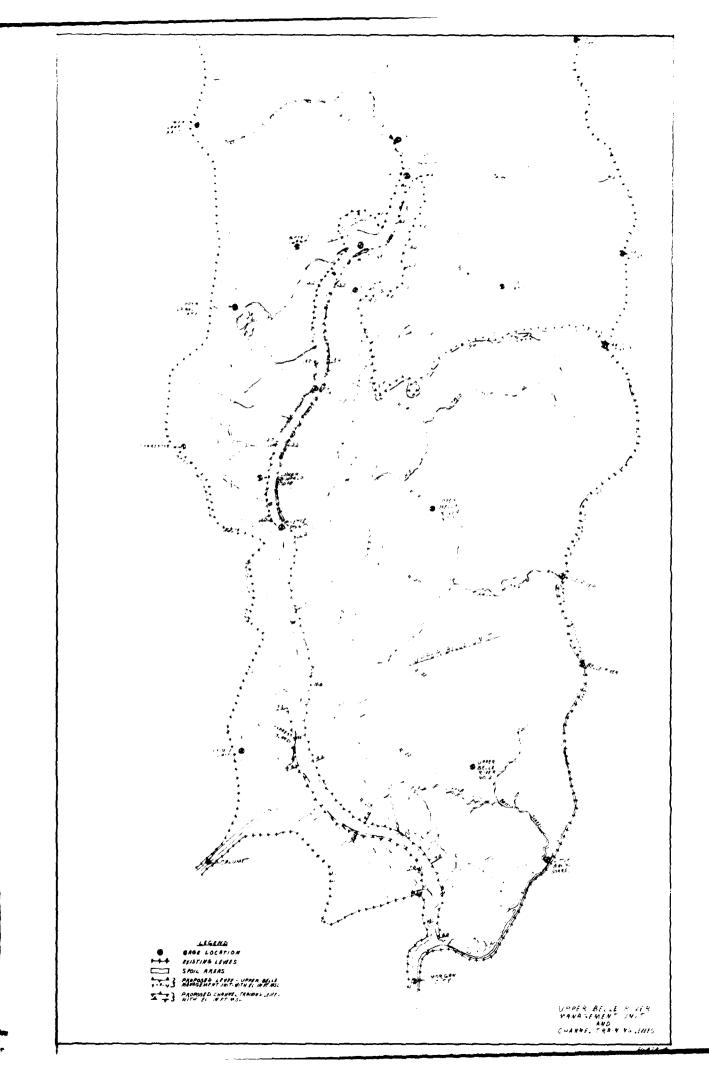
EXISTING LEVEE

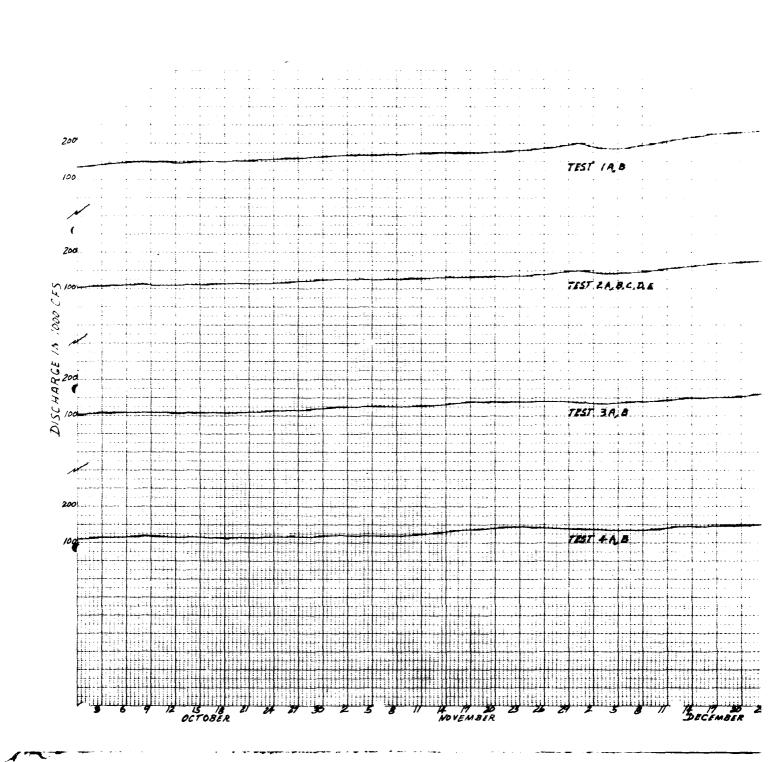
WAX LAKE OUTLET CLOSURE

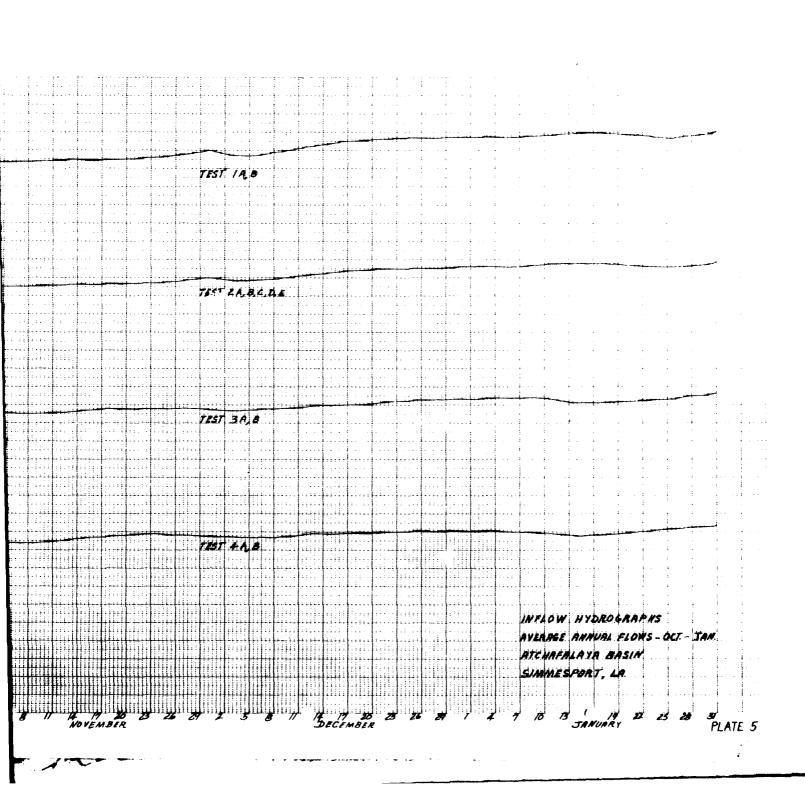
11.6 WITH ELEVATION IN FT. MSL

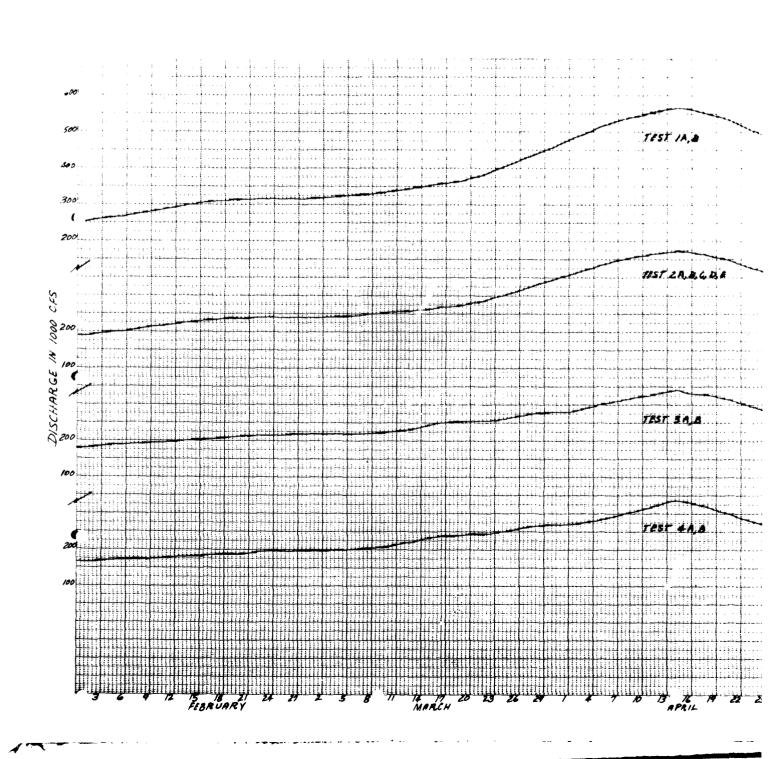
CLOSURE WAX LAKE OUTLET

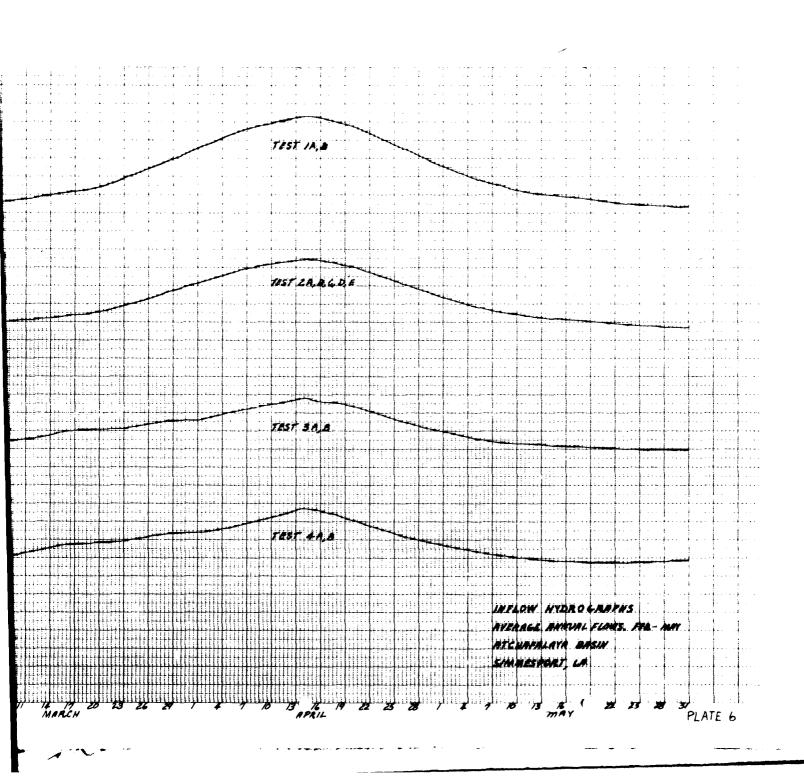


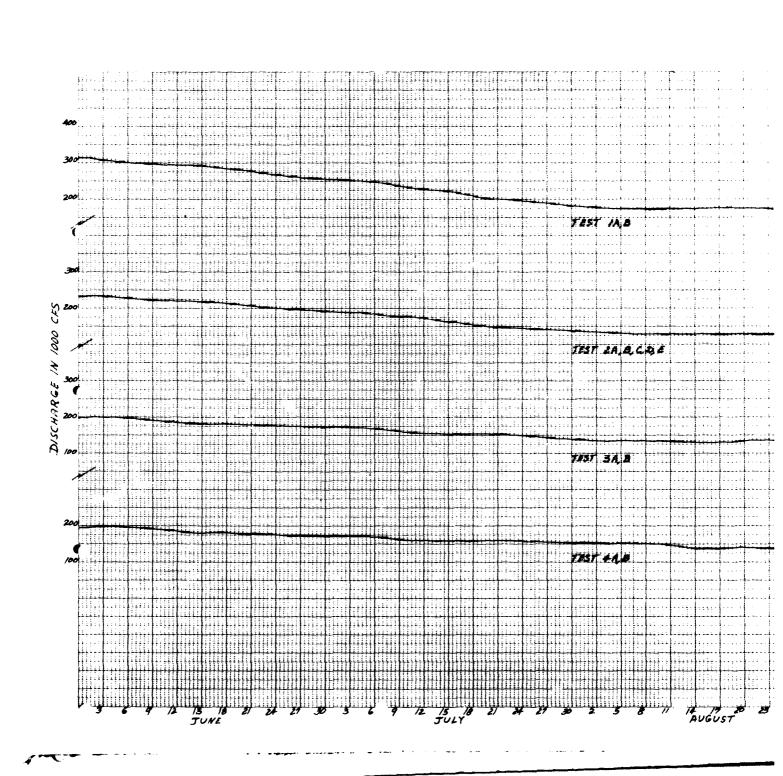


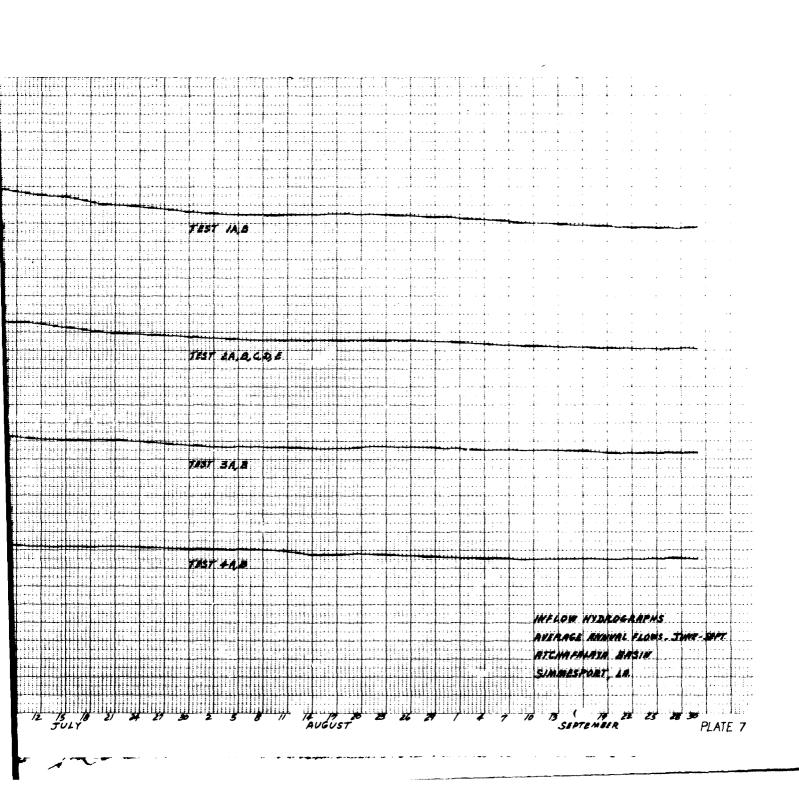


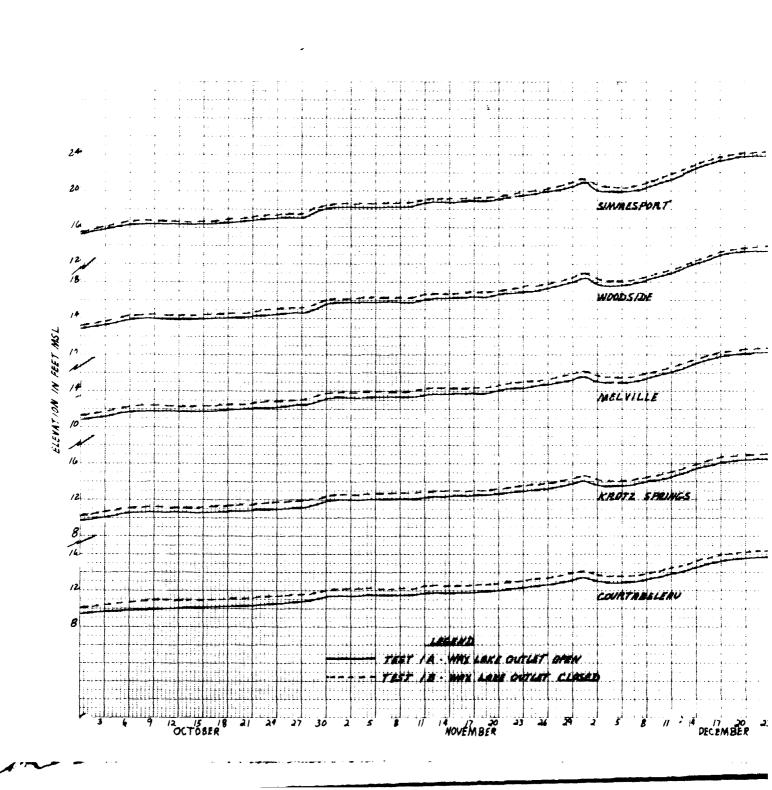


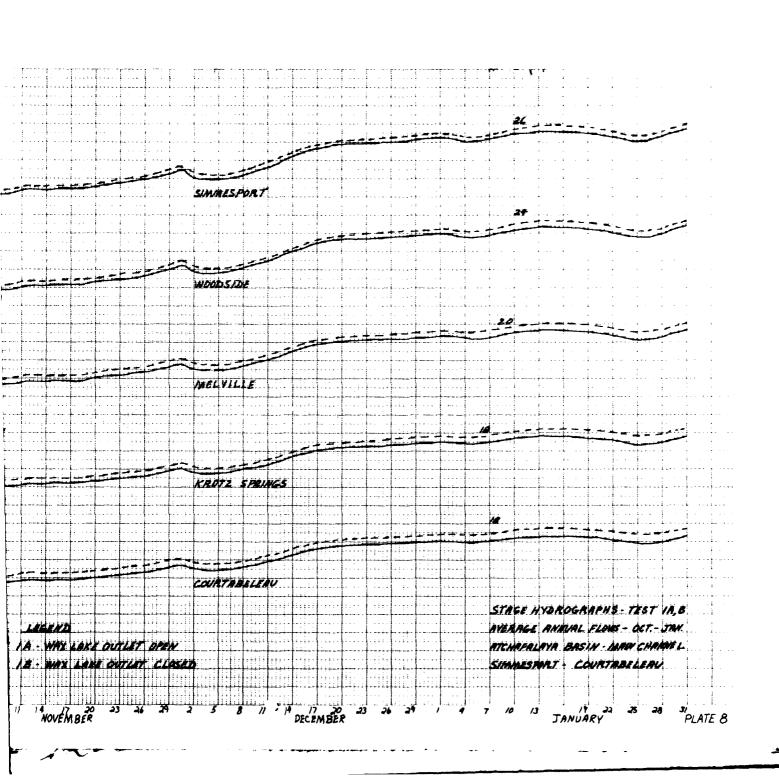


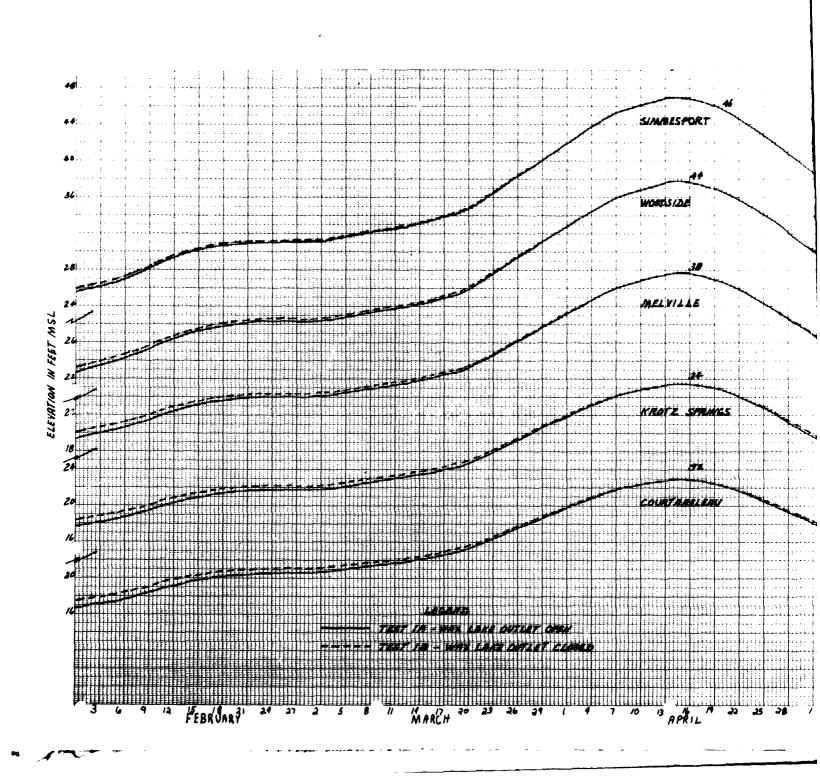


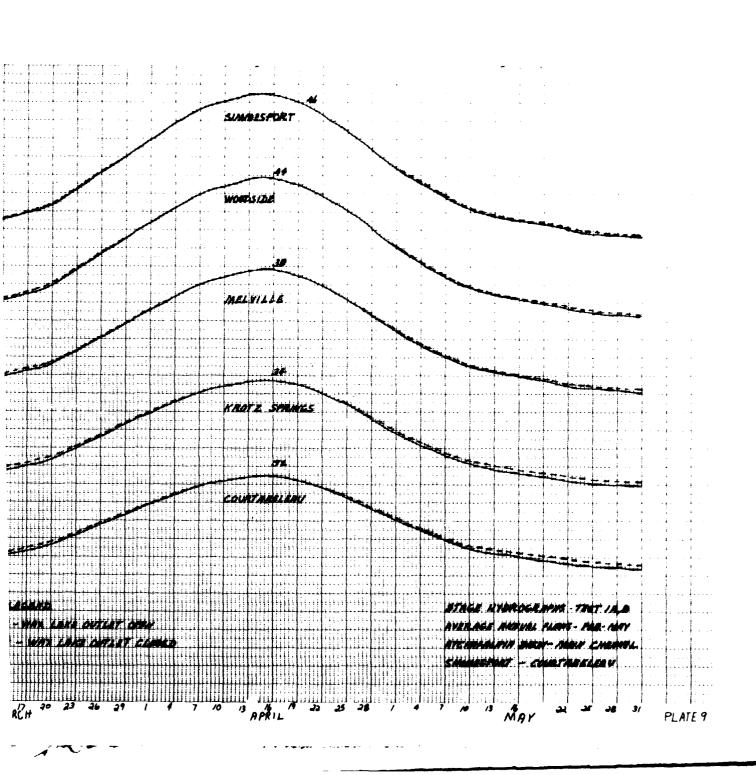


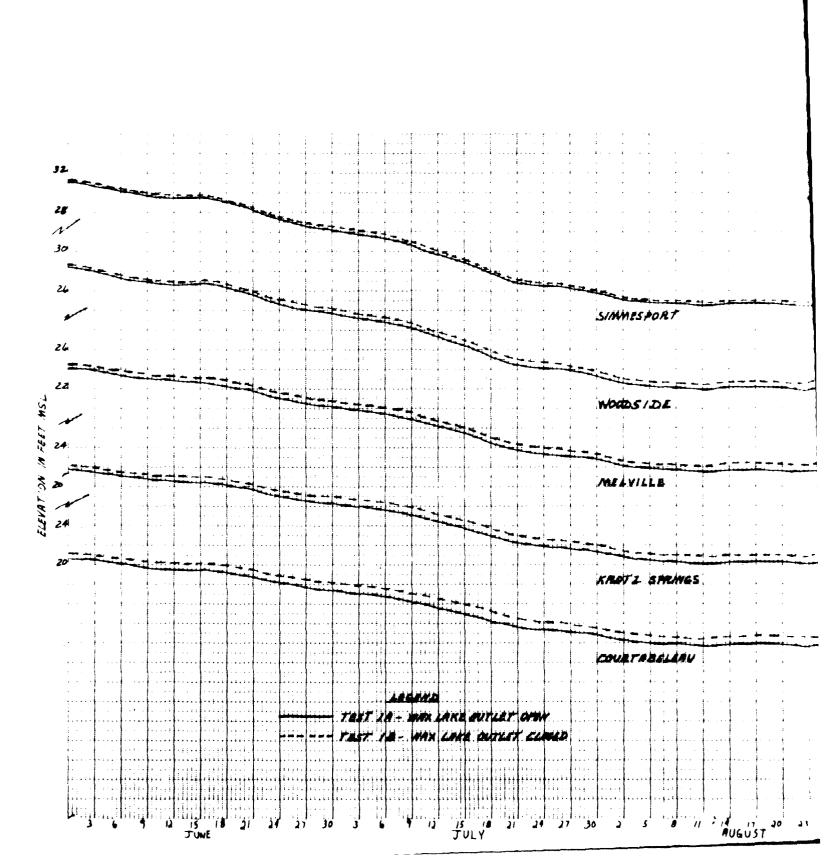


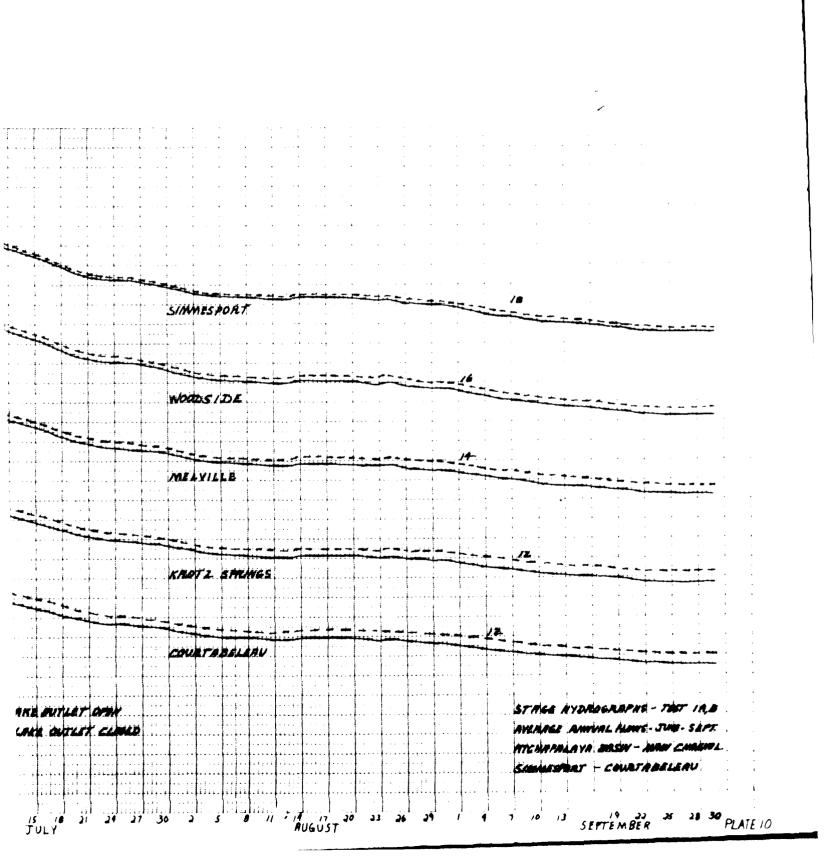


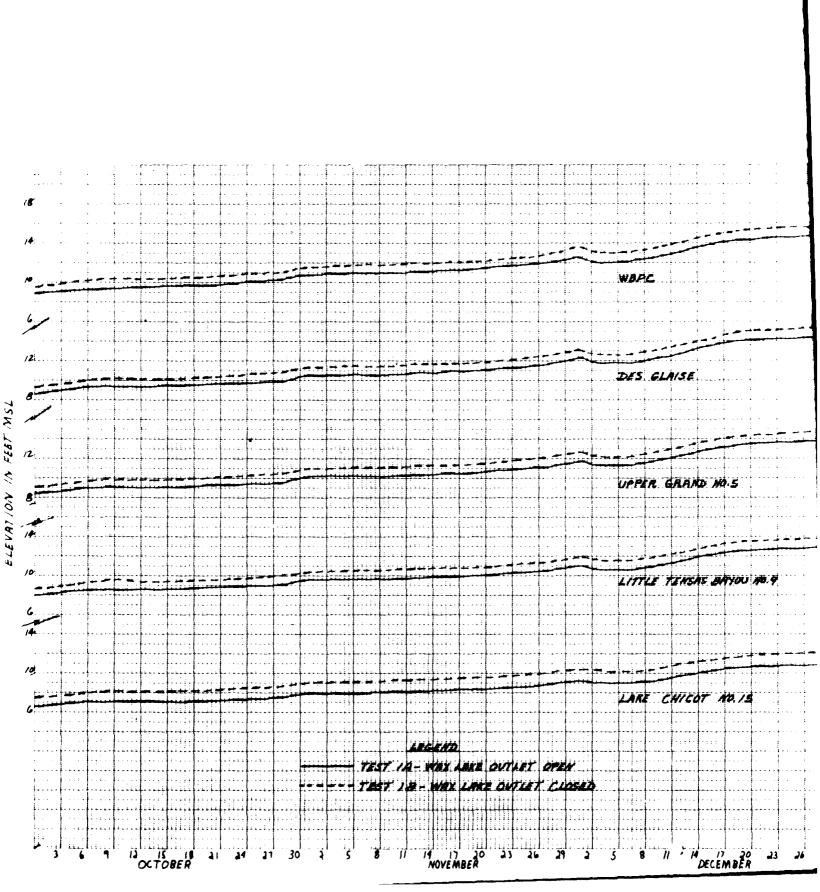


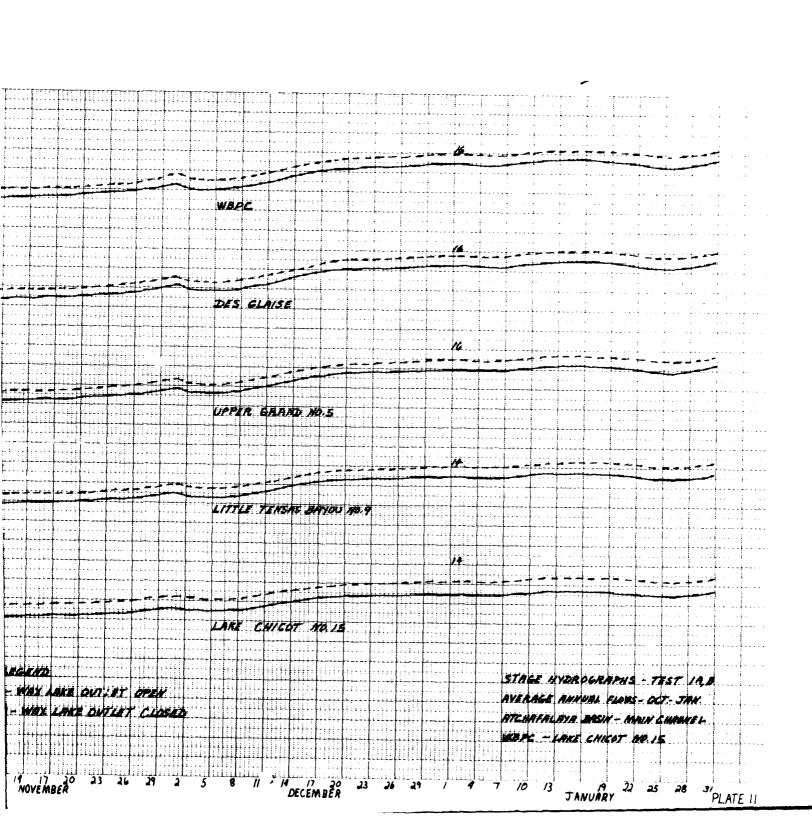


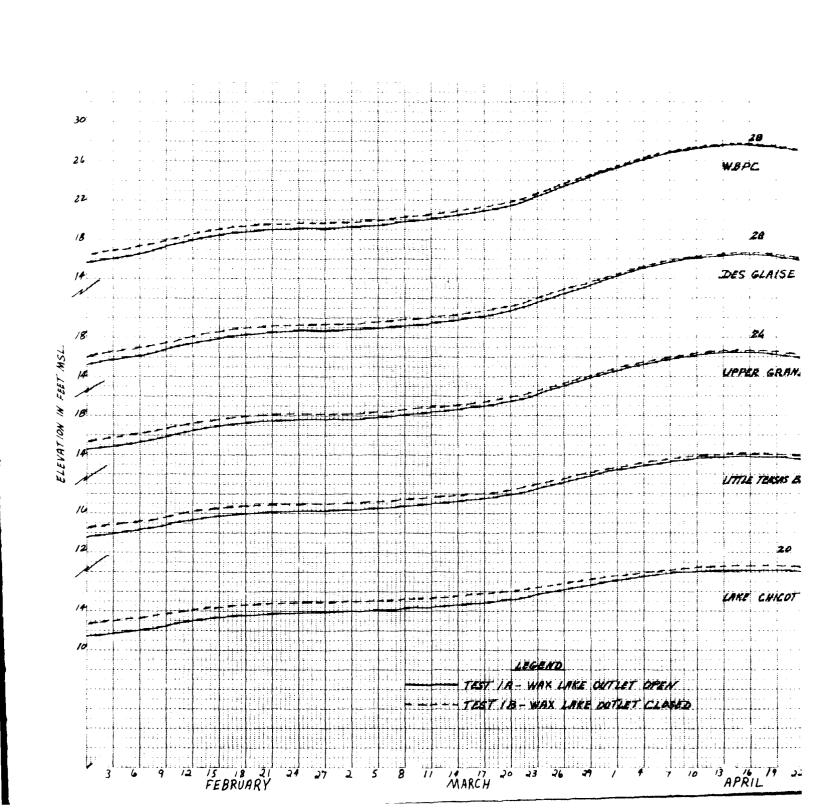


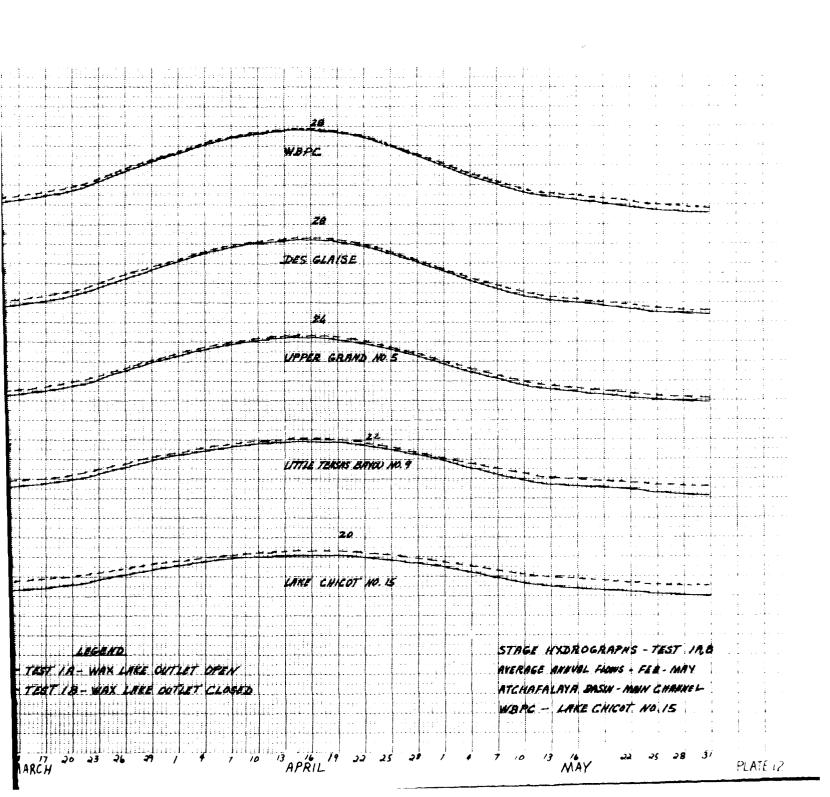


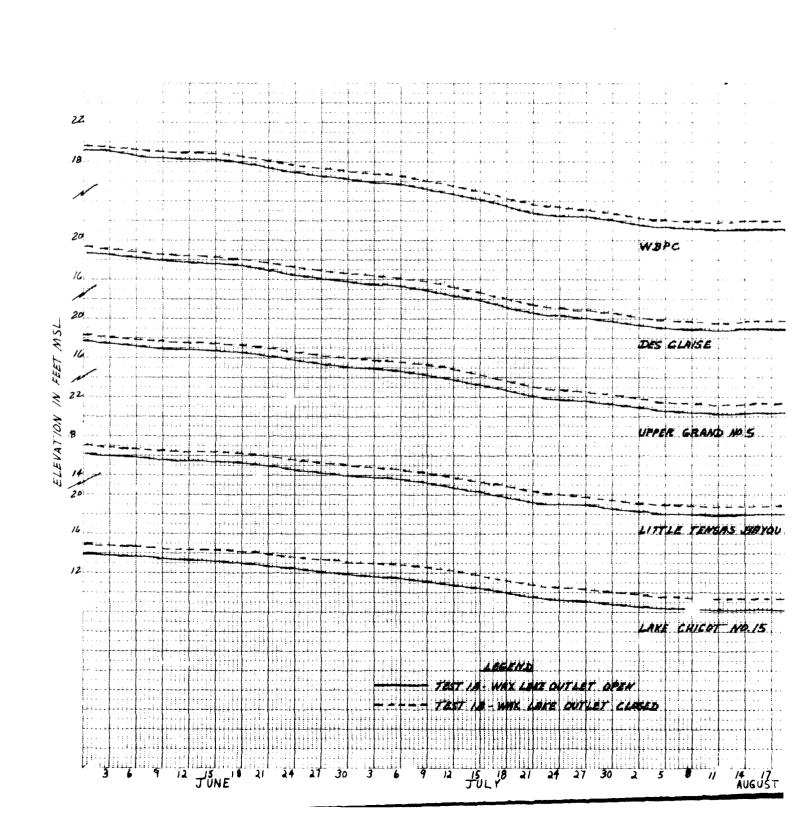


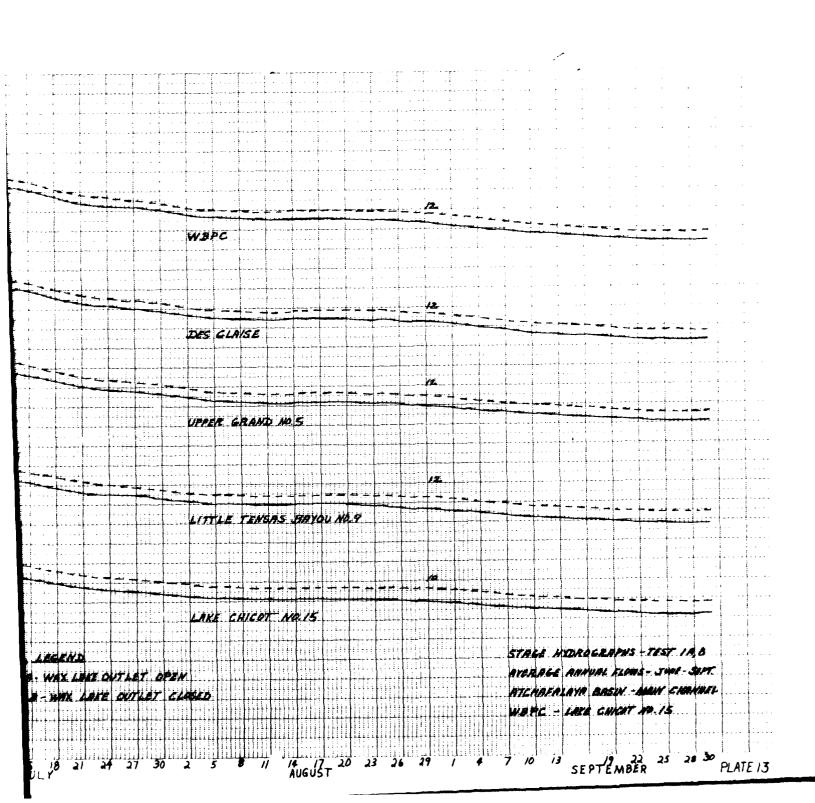


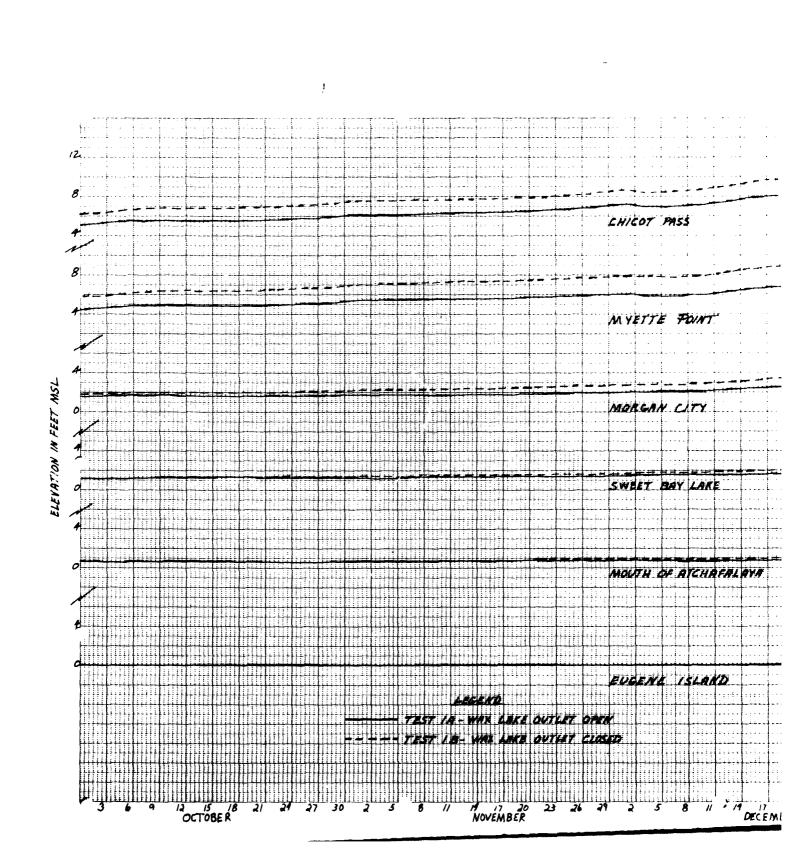


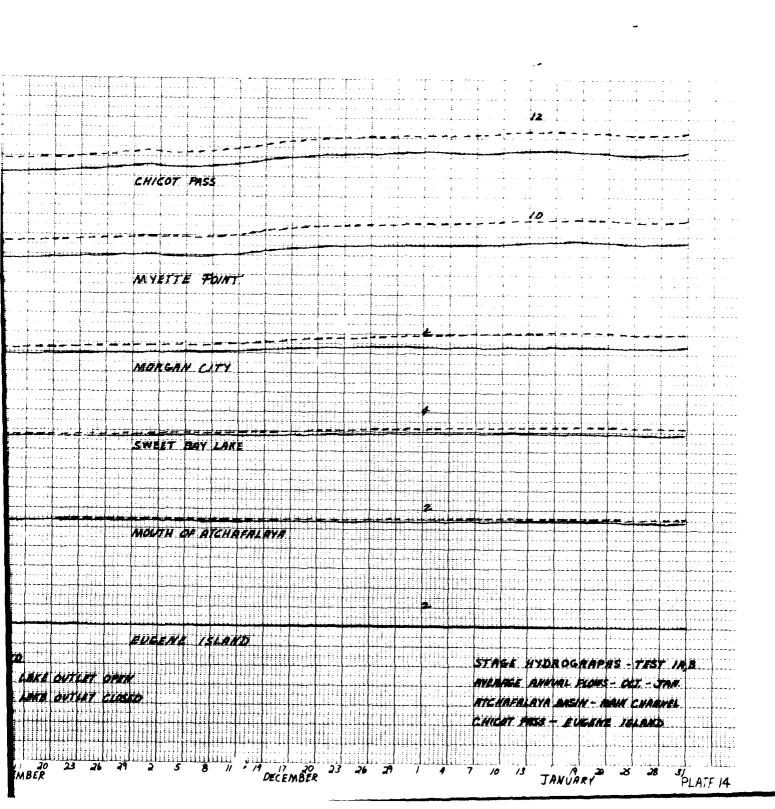


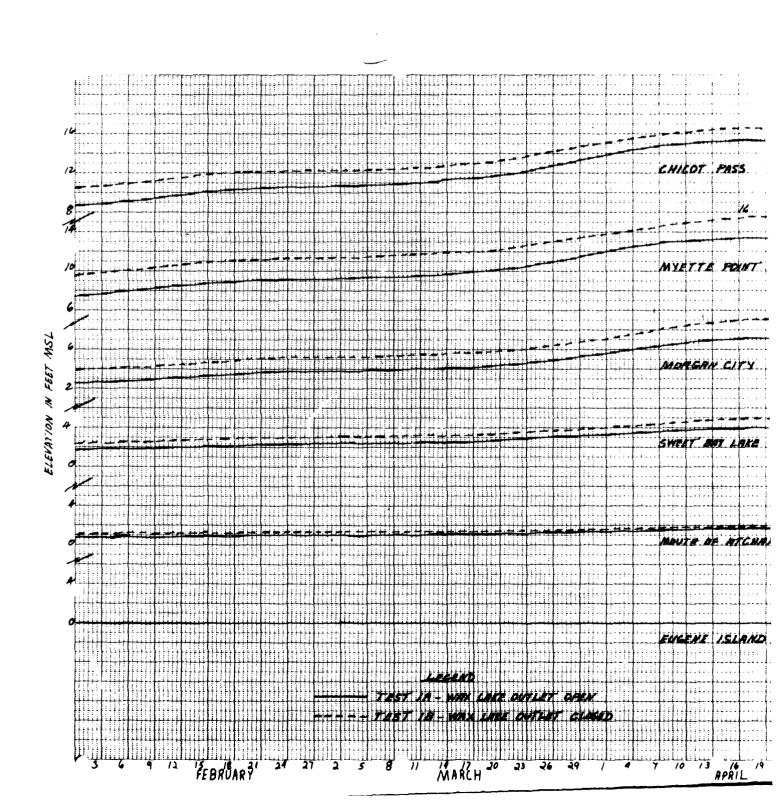


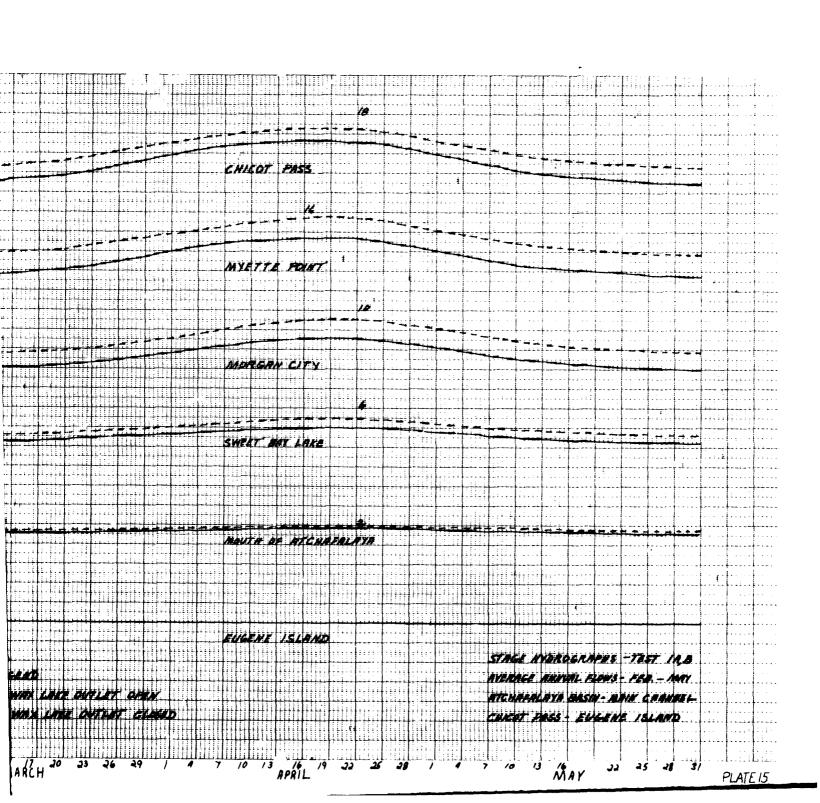


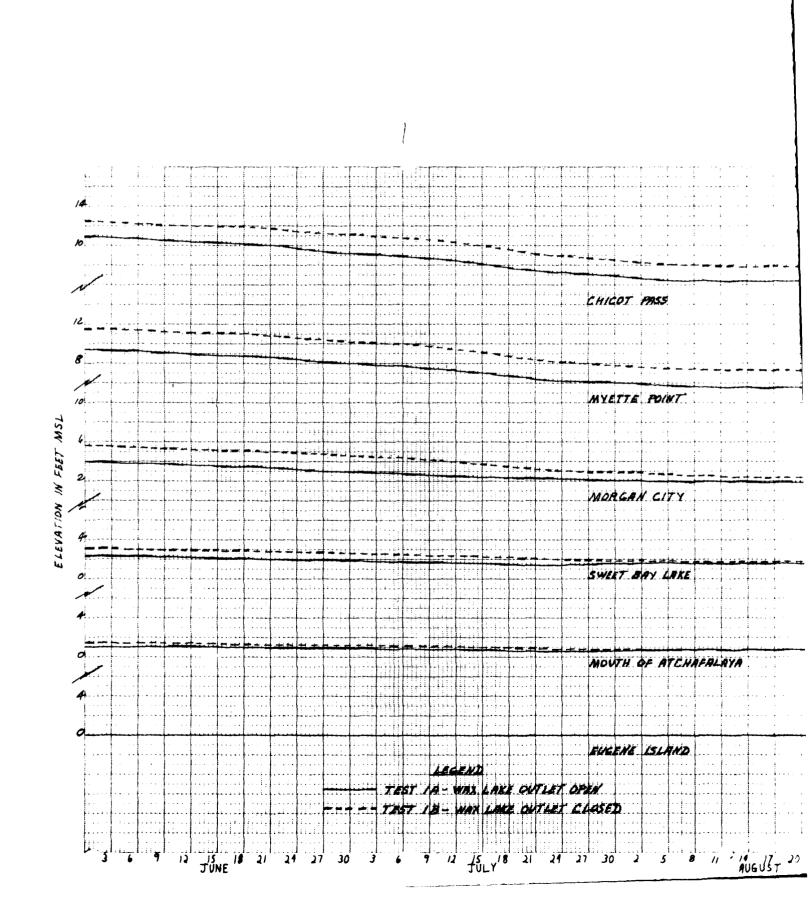


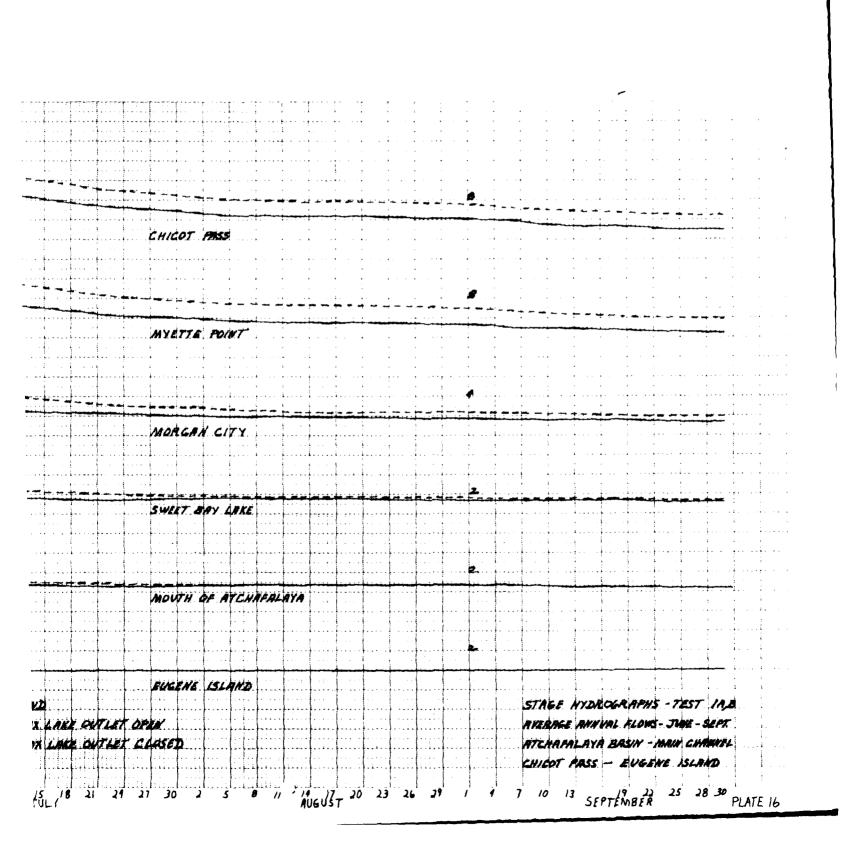


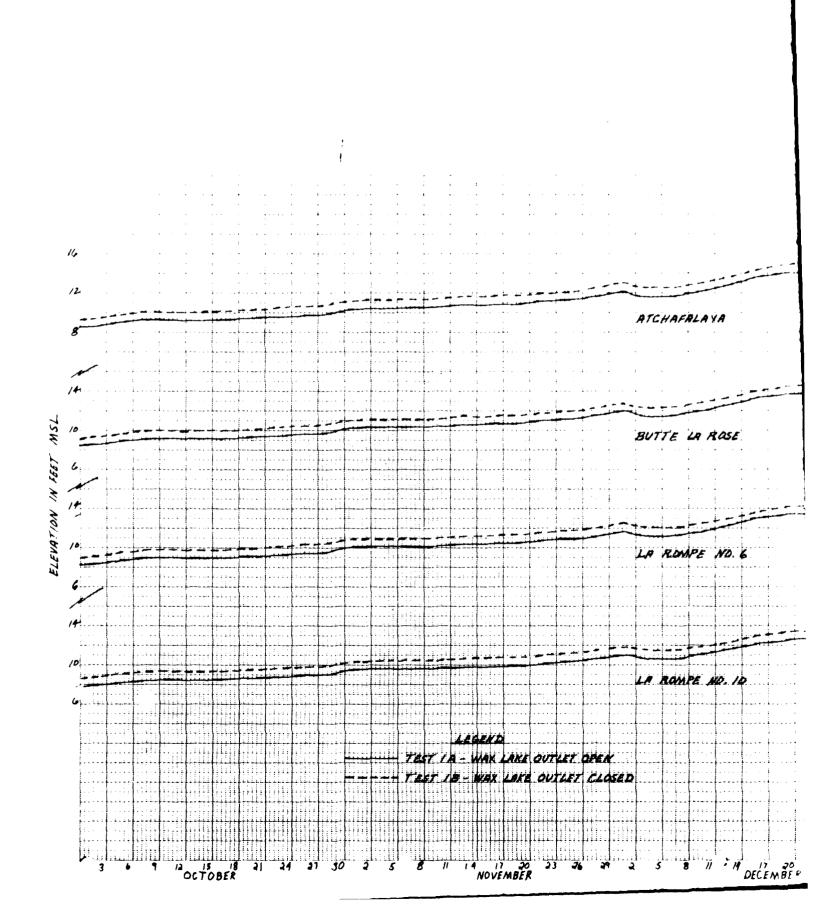


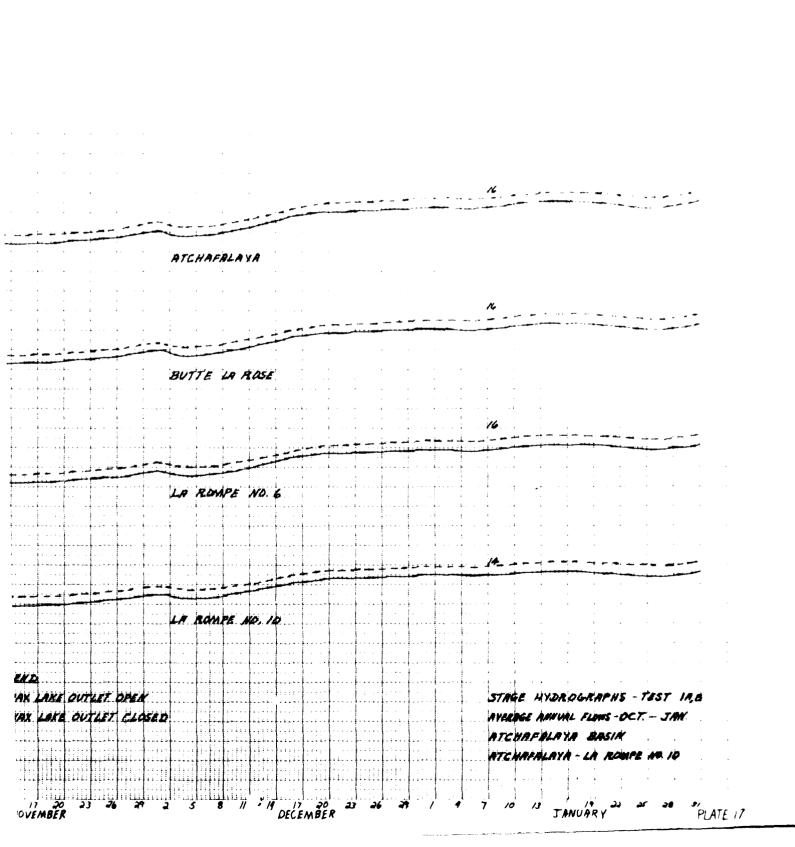


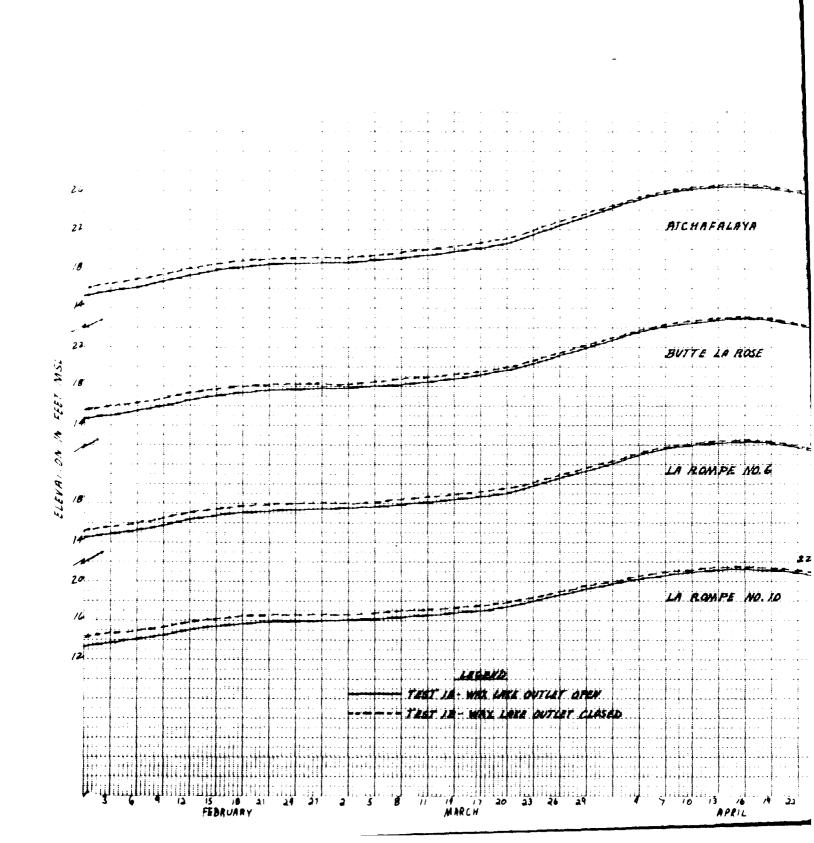


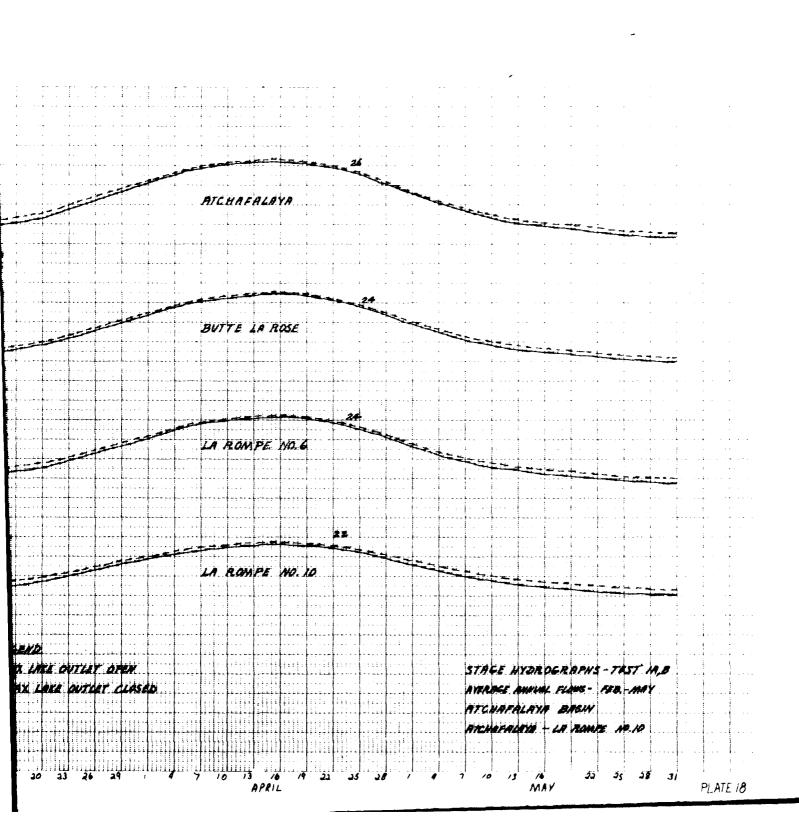


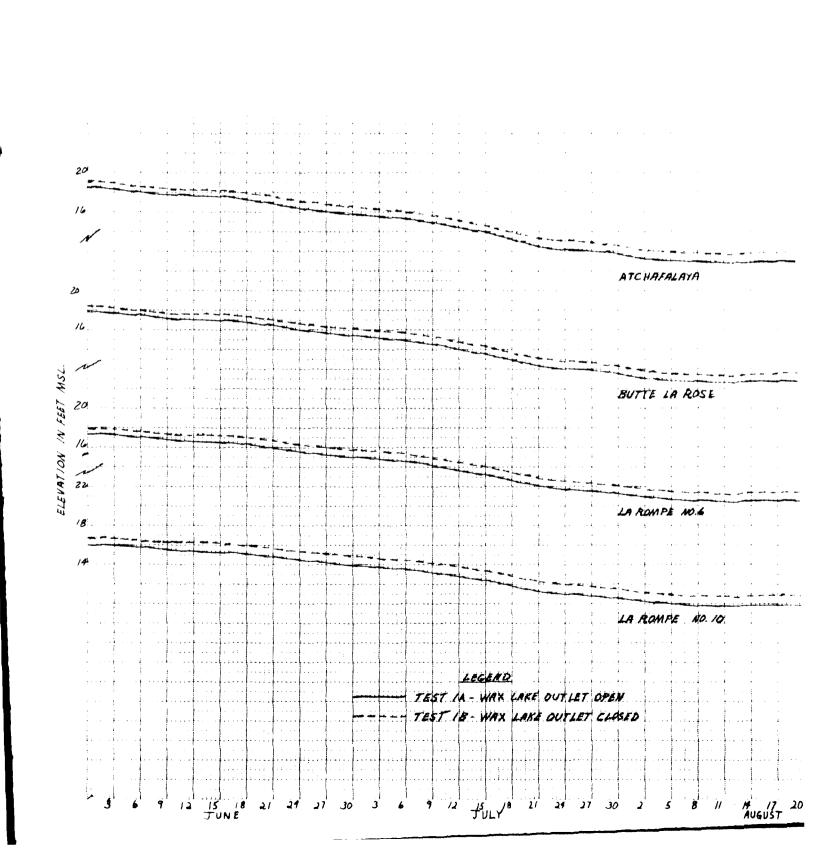


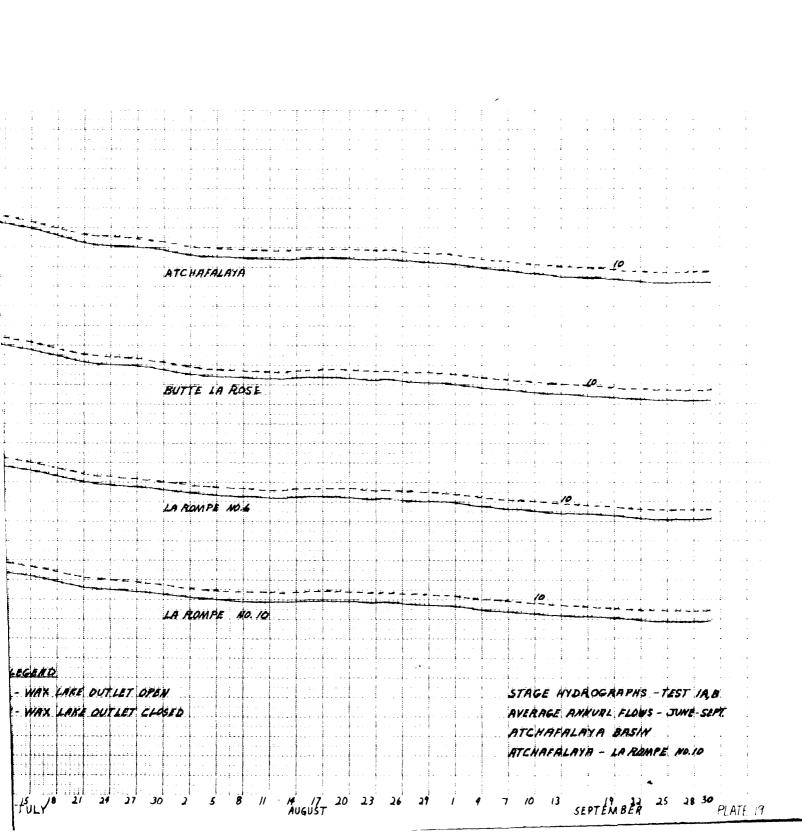


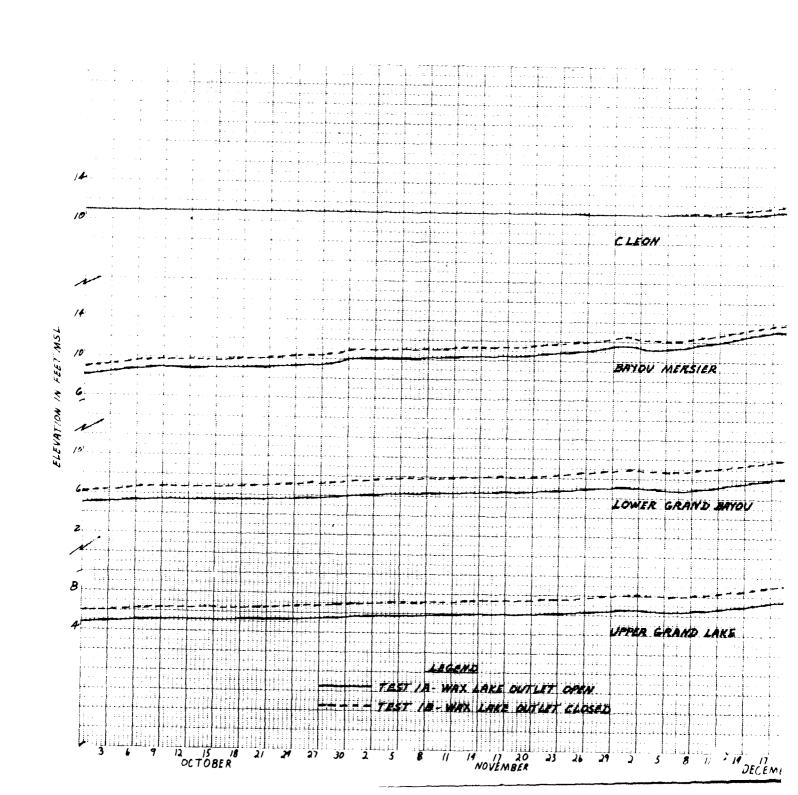












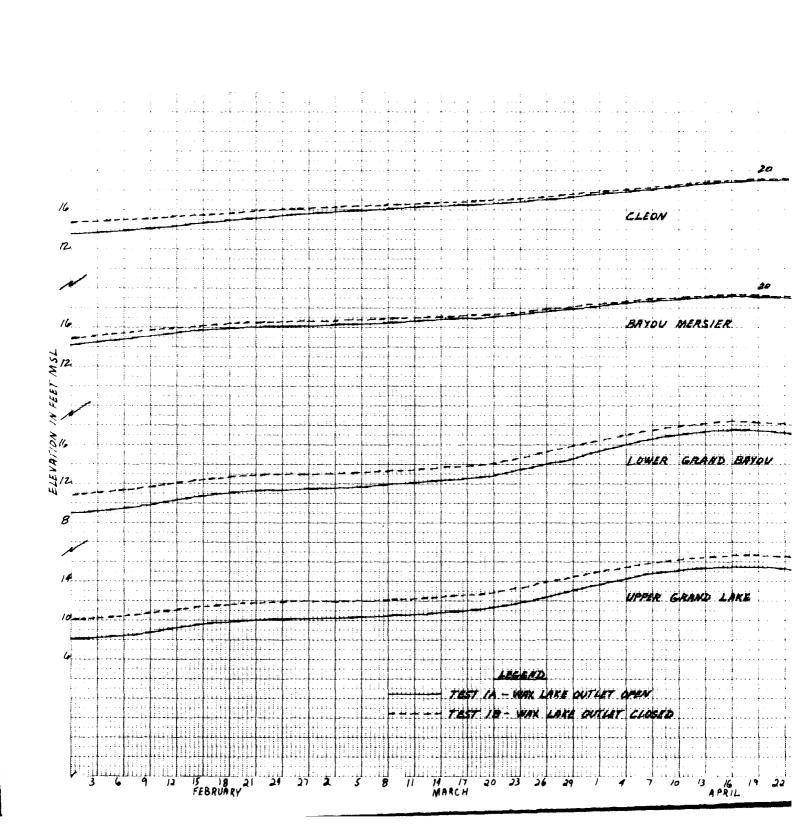
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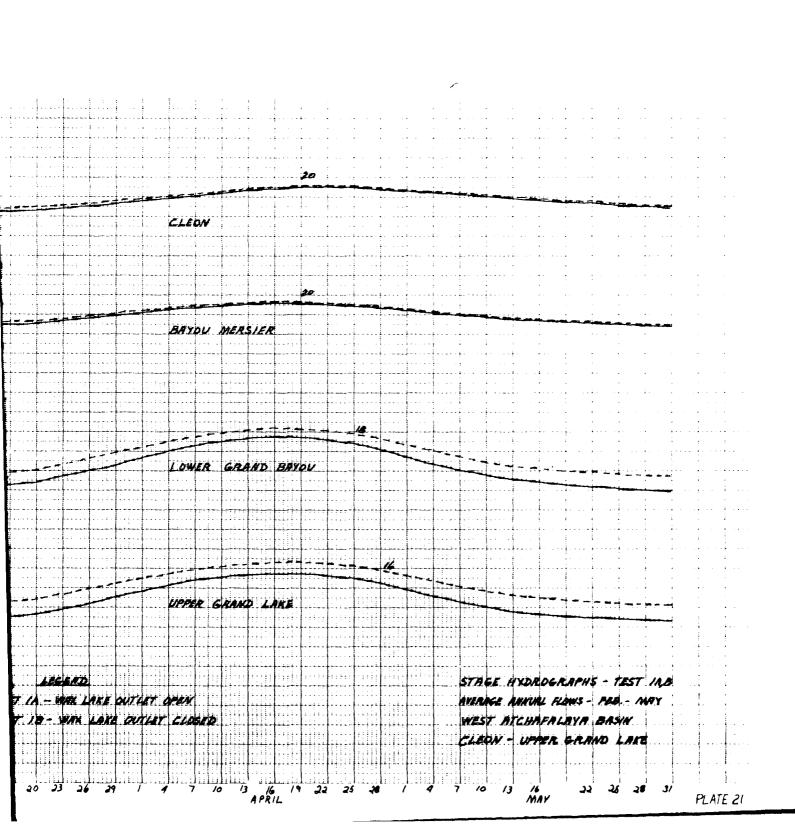
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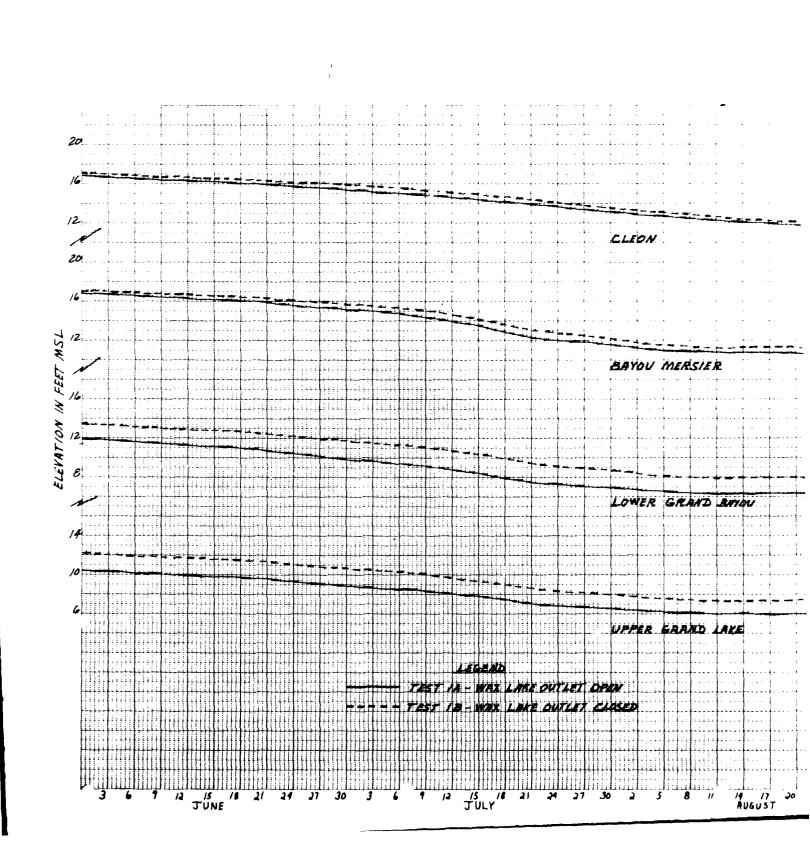
LONER GROWS RAYOU

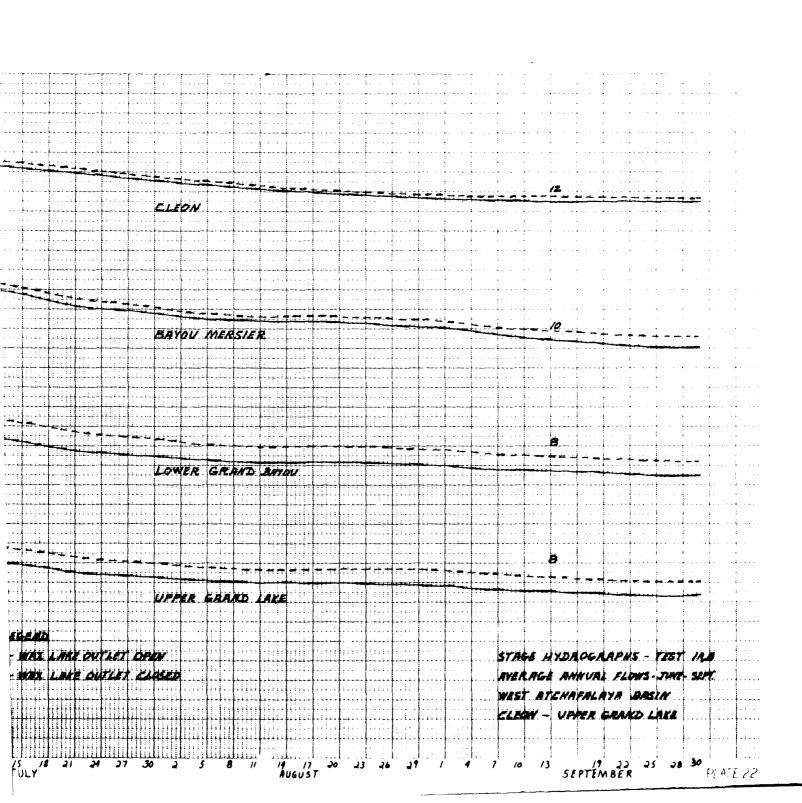
PHER GRAND LAKE

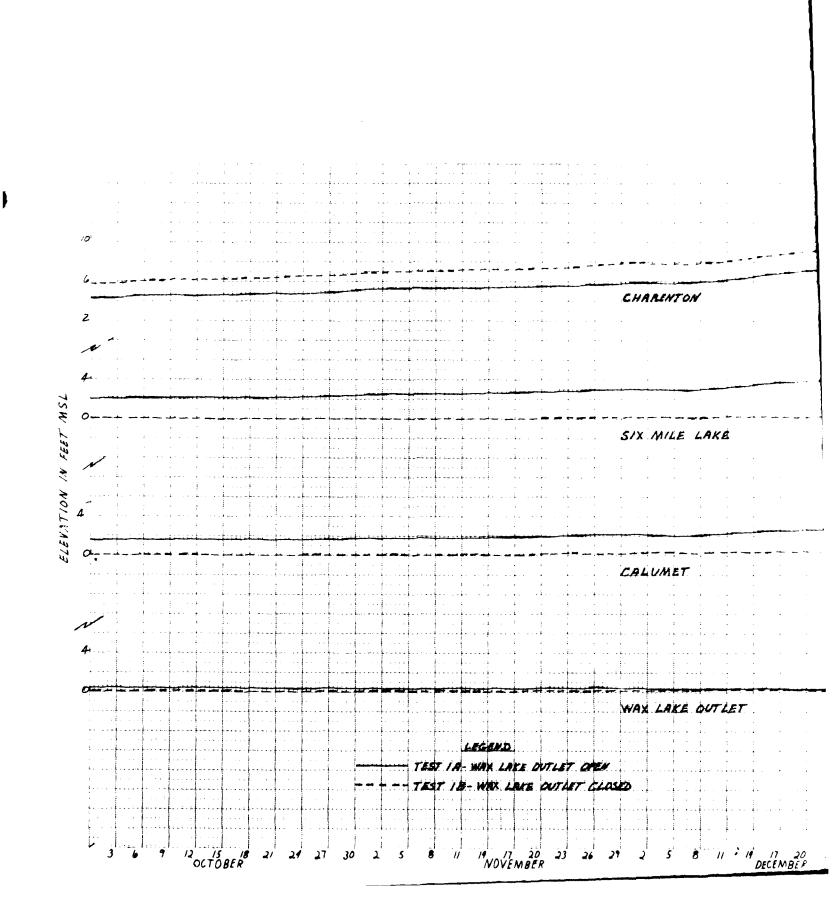
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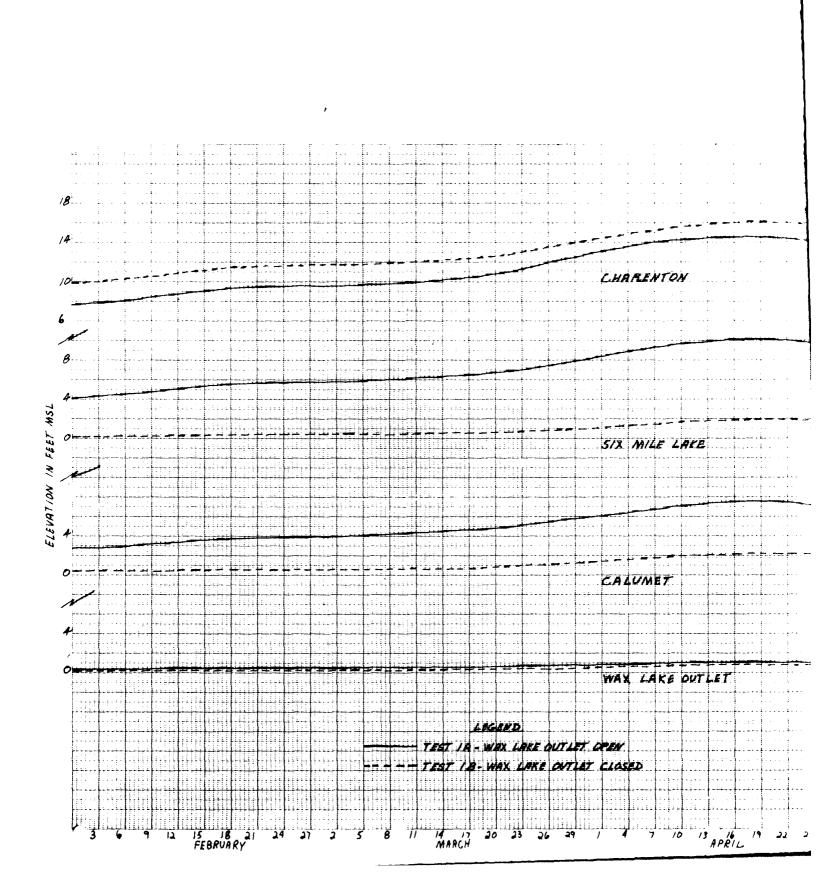




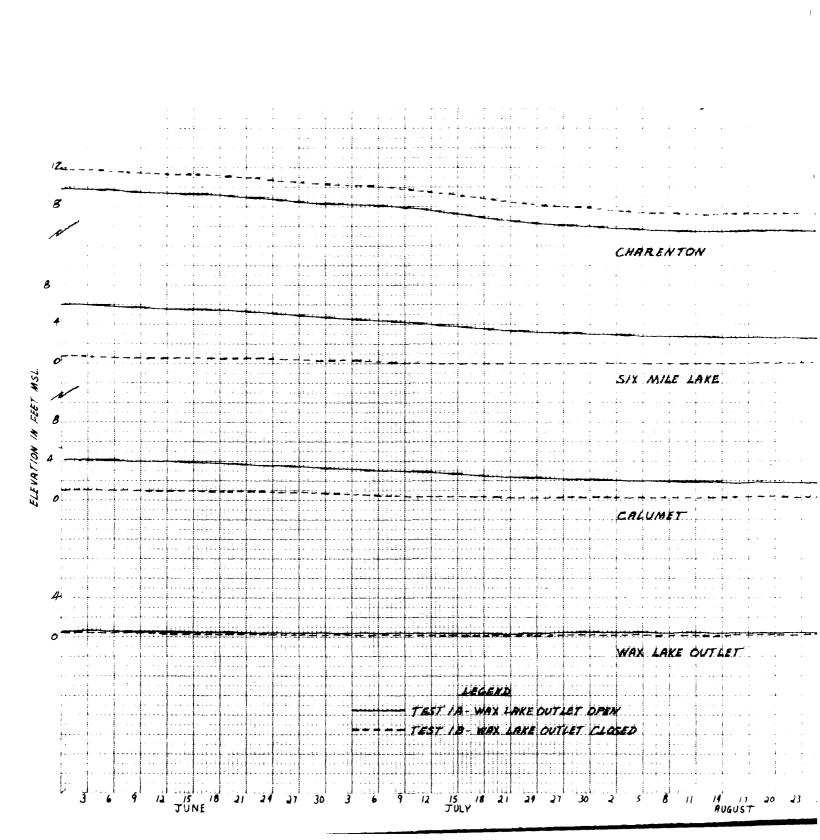




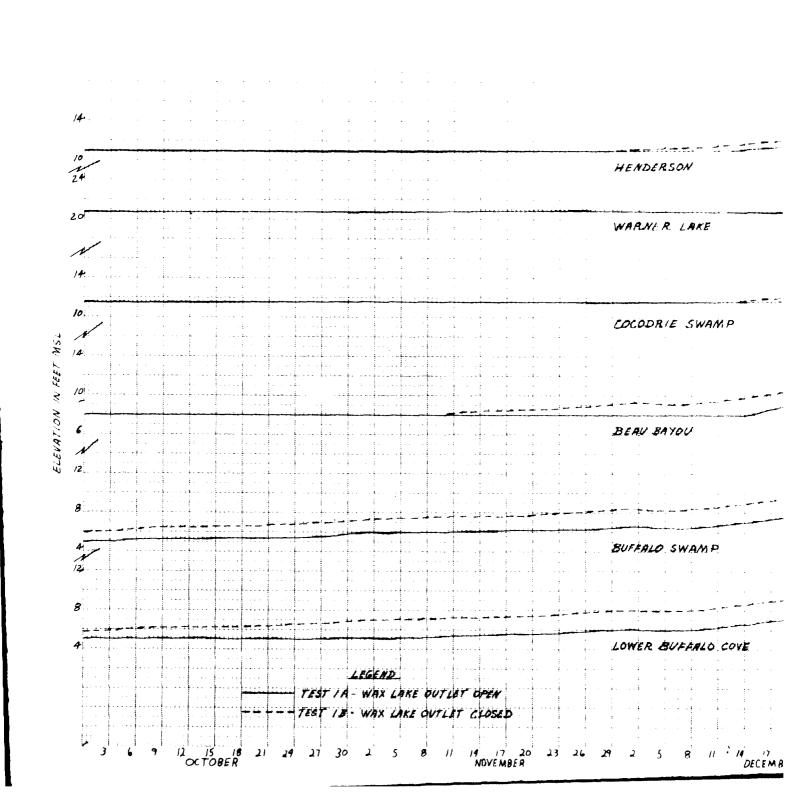
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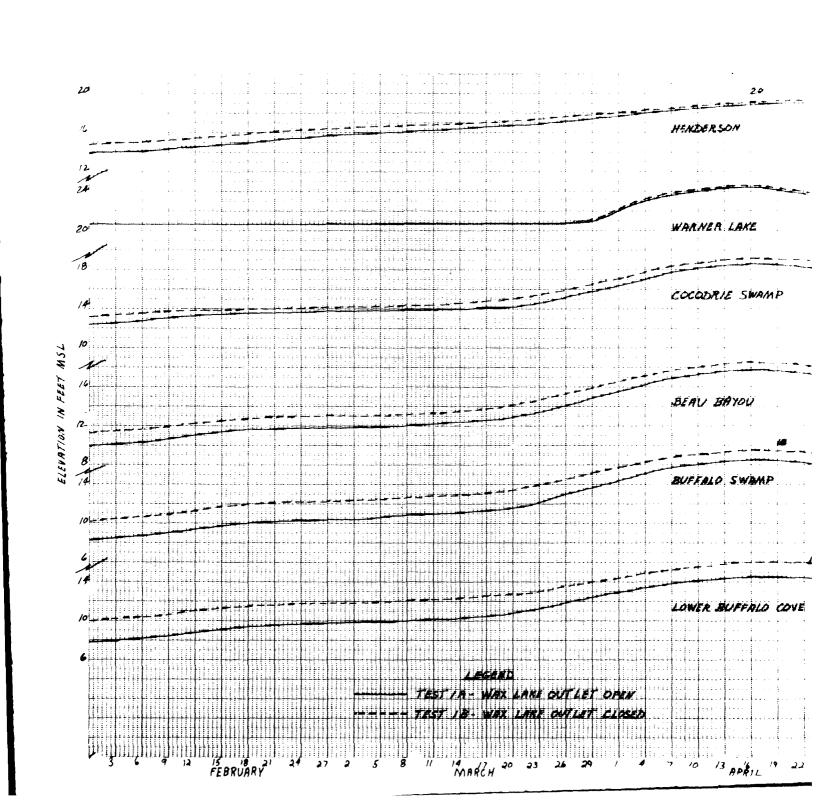
CHARENTON SIX MILE LAKE CALUMET WAX LAKE OUTLET WAN LAKE OUTLET CPEN AVERAGE ANNUAL FLOWS - FEB. - MAY WEST ATCHAFALAYA BASIN CHARENTON- WAX LAKE QUILET P) AT 24

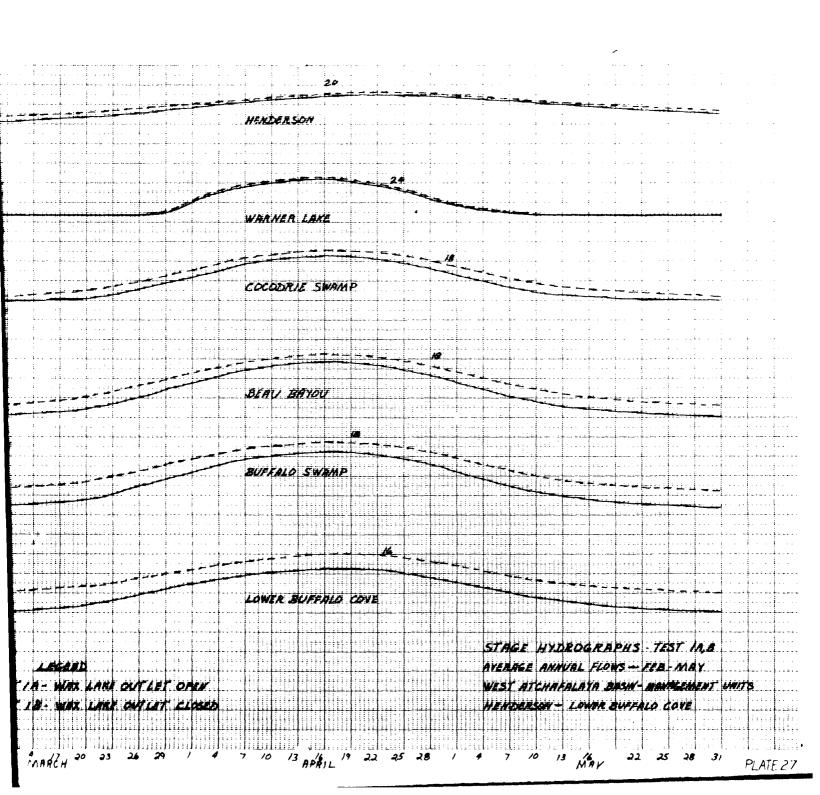


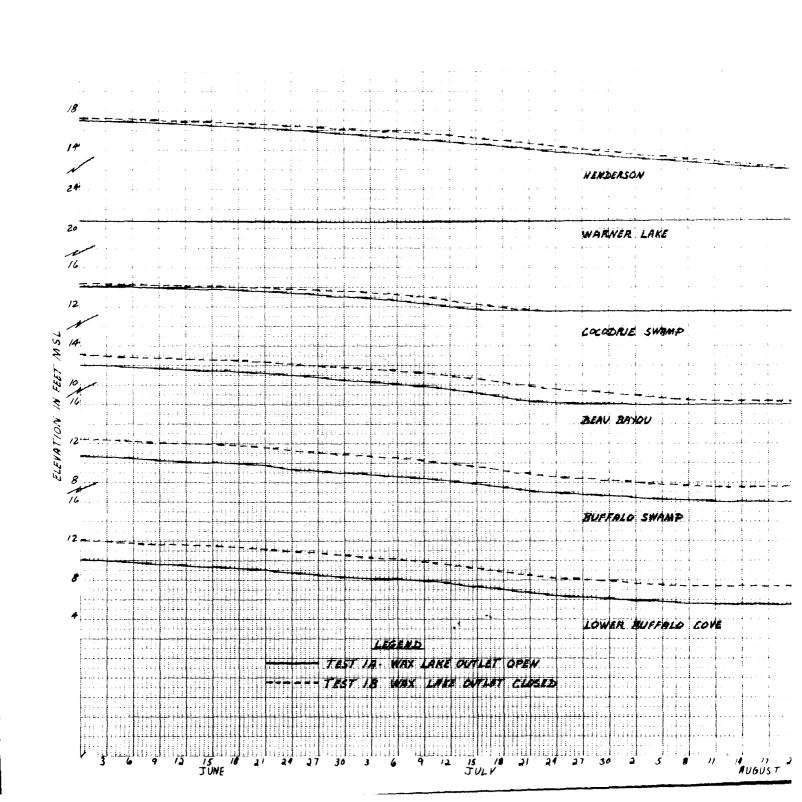
CHARENTON CALUMET WAX LAKE OUTLET STAGE HYDROGRAPHS - TEST IA.B A- WAX LAKE OUTLET DEEN AVERAGE ANNUAL FLOWS - JUNE - SEPT. 18- WAX LAKE OUTLET CLOSED WEST ATCHAFALAYA BASIN CHARENTON- WAX LAKE OUTLET

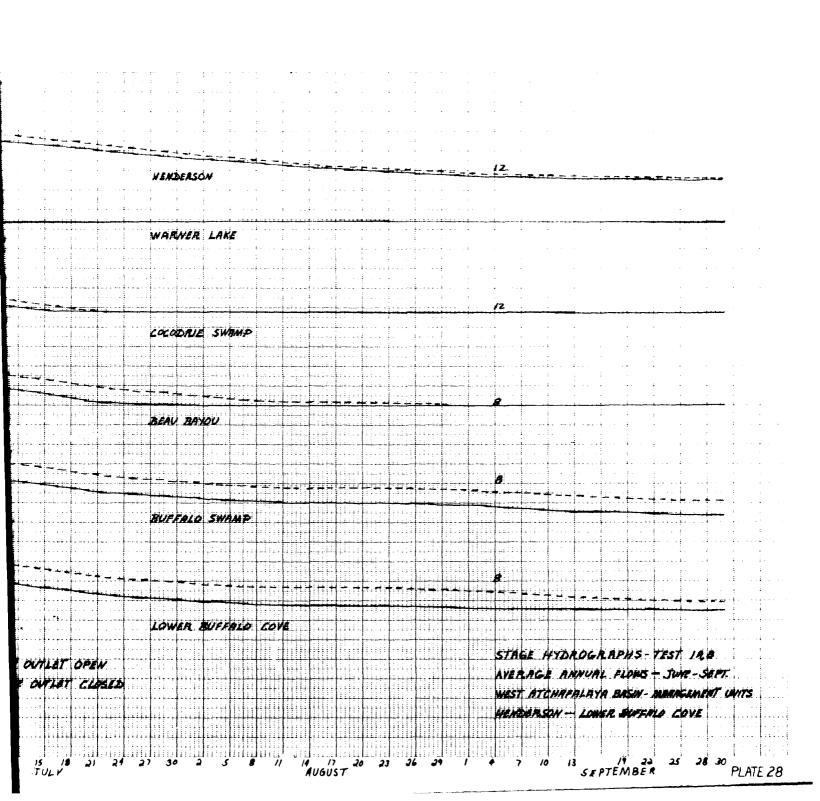


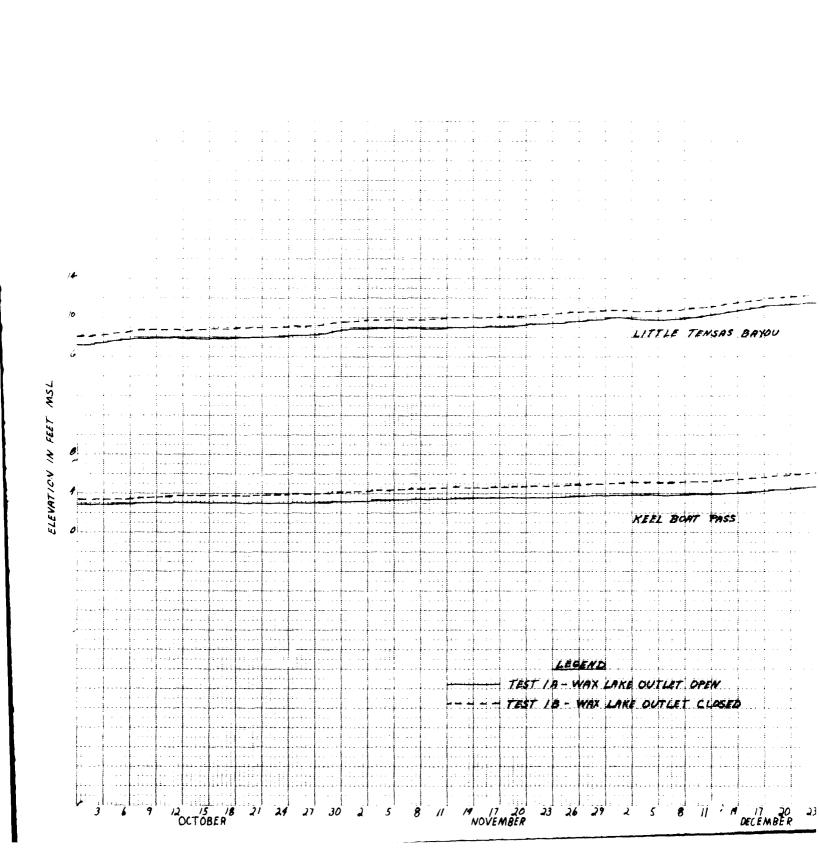
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LITTLE TENSAS BRYOU

KEEL BOAT PASS

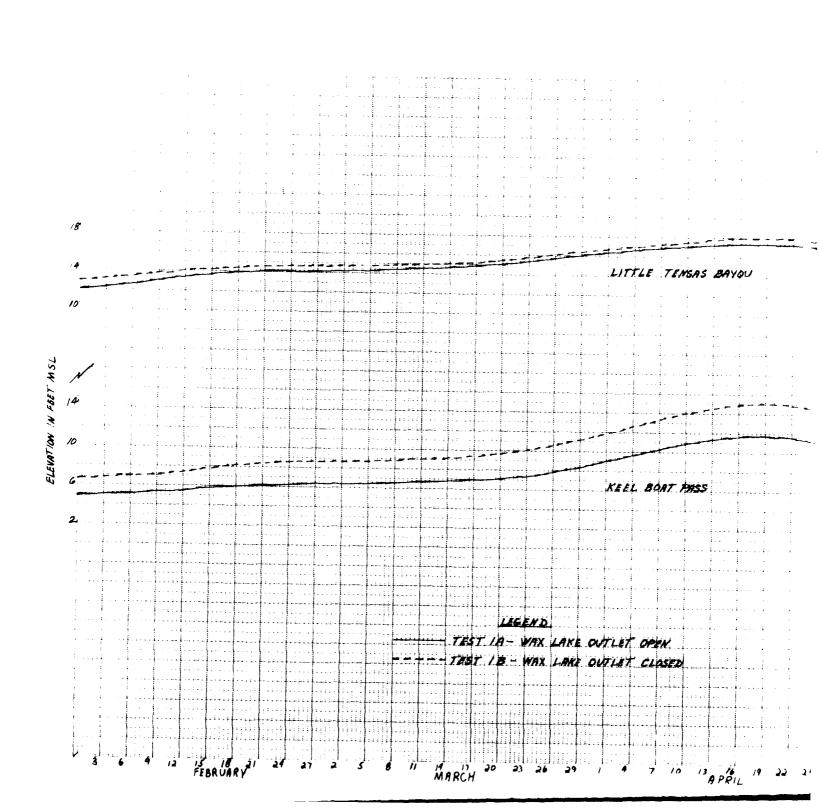
LEGEND

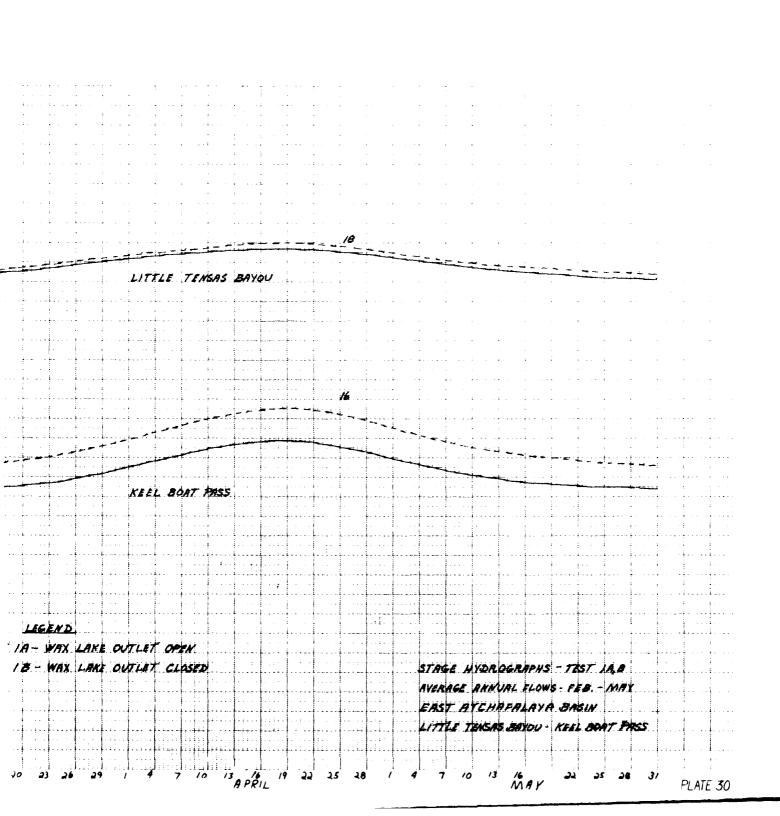
TEST IA - WAX LAKE OUTLET OPEN

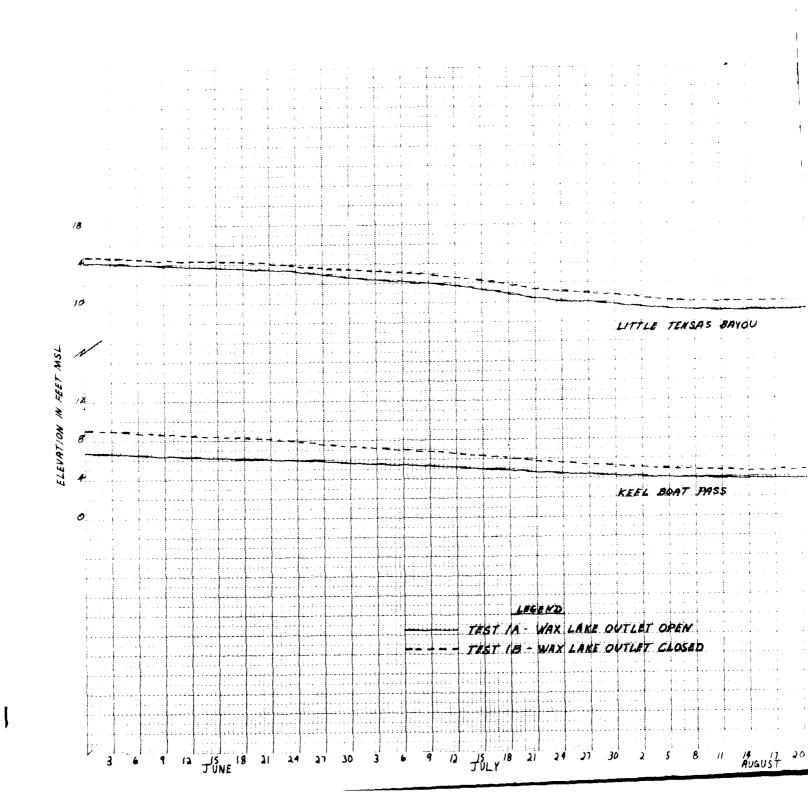
STAGE HYDROGRAPHS - TEST IA,8 AVERAGE ANNUAL FLOWS - OCT. - JAN. EAST ATCHAFALAYA BASIN

LITTLE TENERS BRYOU - KEEL BORT PASS

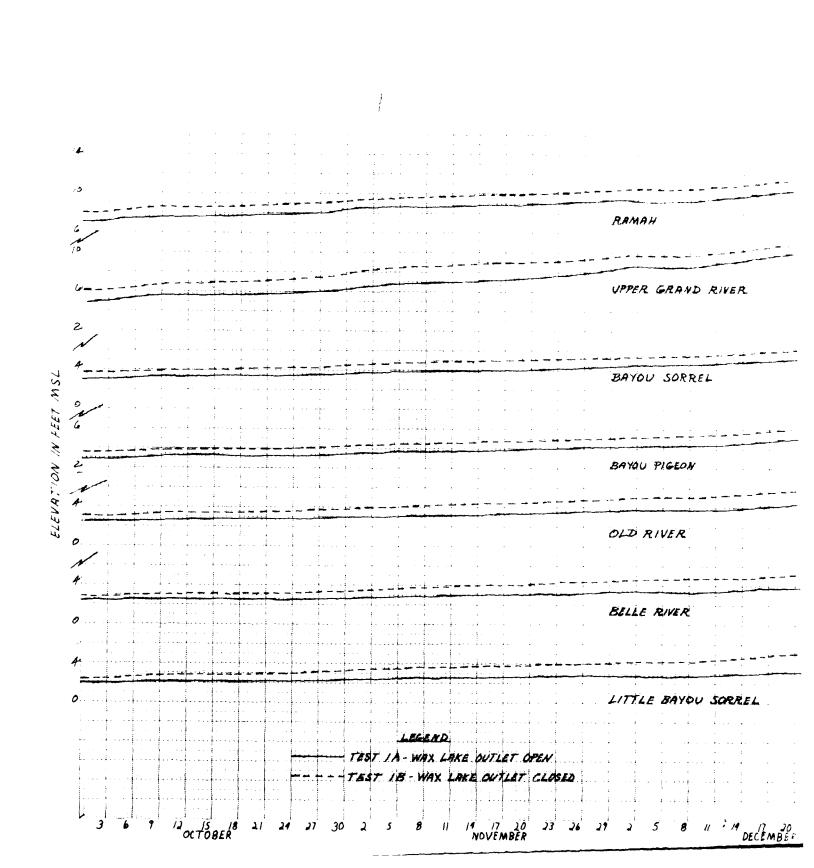
17 20 23 26 29 2 5 8 11 M 17 20 23 26 29 1 4 7 10 13 19 22 25 28 31
OVEMBER DECEMBER PLATE 29





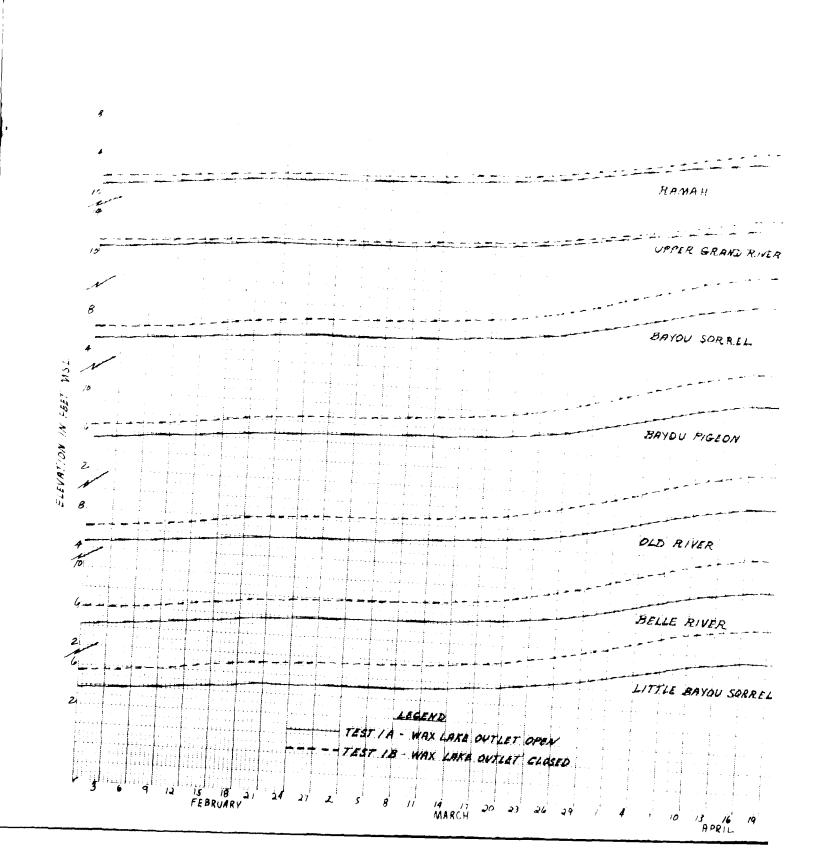


LITTLE TENSAS BAYOU TEST IA - WAX LAKE OUTLET OPEN TEST IB - WAX LAKE OUTLET CLOSED STAGE HYDROGRAPHS - TEST IN. 8 AVERAGE ANNUAL FLOWS - JUNE - SEPT. ERST ATCHREALRYA BASIN LITTLE TENSAS BAYOU - REEL BOAT PASS SEPTEMBER 25 28 30 PLATE SI



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RAMAH UPPER GRAND RIVER BAYOU SORREL OLT RIVER LITTLE BAYOU SORREL

AKE ONTLET OPEN

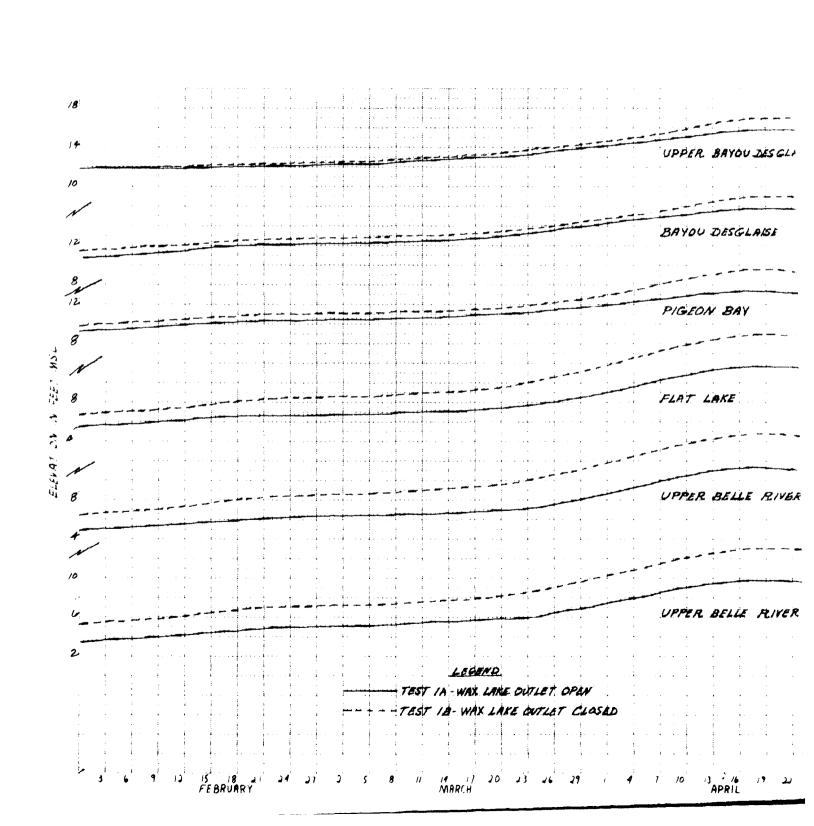
STAGE HYDROGRAPHS - TEST 1A,B AYERAGE ANNUAL PLOWS - FEB. - MAY EAST ATCHAPALAYA BASIN RAMAH - LITTLE BAYOU SORREL.

UPPER GRAND RIVER BAYOU SORREL BAYOU PIGEON . OLD RIVER BELLE RIVER LEGEND - TEBI IA WAX LAKE OUTLET OPEN ---- TEST IB WAX LAKE OUTLET CLOSED

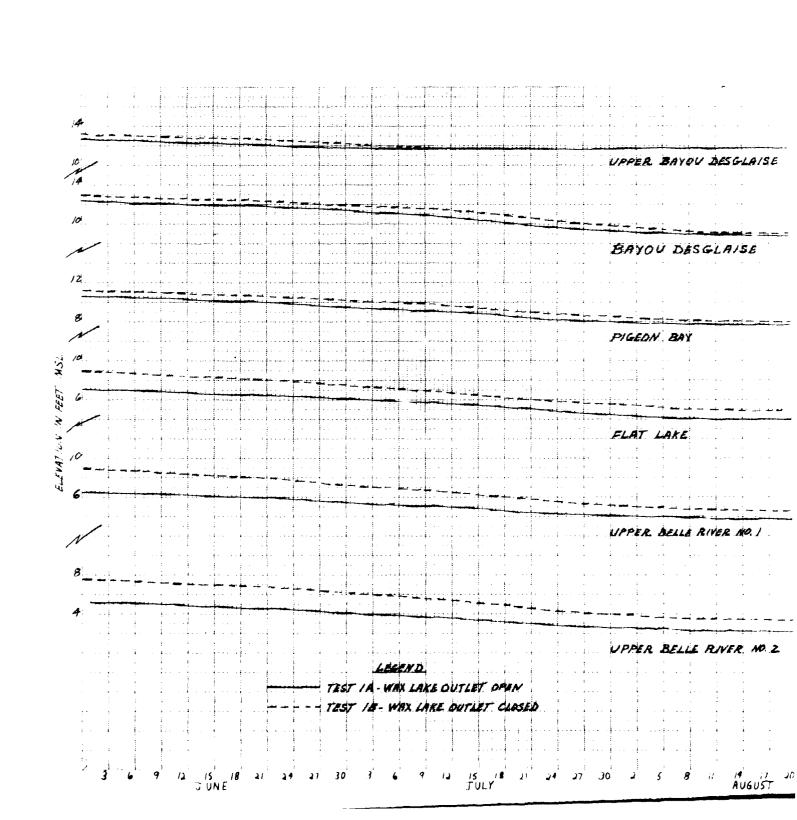
RAMAH UPPER GRAND RIVER BAYOU SORREL BAYOU PIGEON . OLD RIVER BELLE RIVER LITTLE BAYOU SORREL STAGE HYDROGRAPHS - TEST INB SE QUILLET OPEN. AVERAGE ANNUAL FLOWS - JUNE - SEPT. EAST ATCHAPALAYA BASIN RAMAH - LITTLE BAYOV SORRAL

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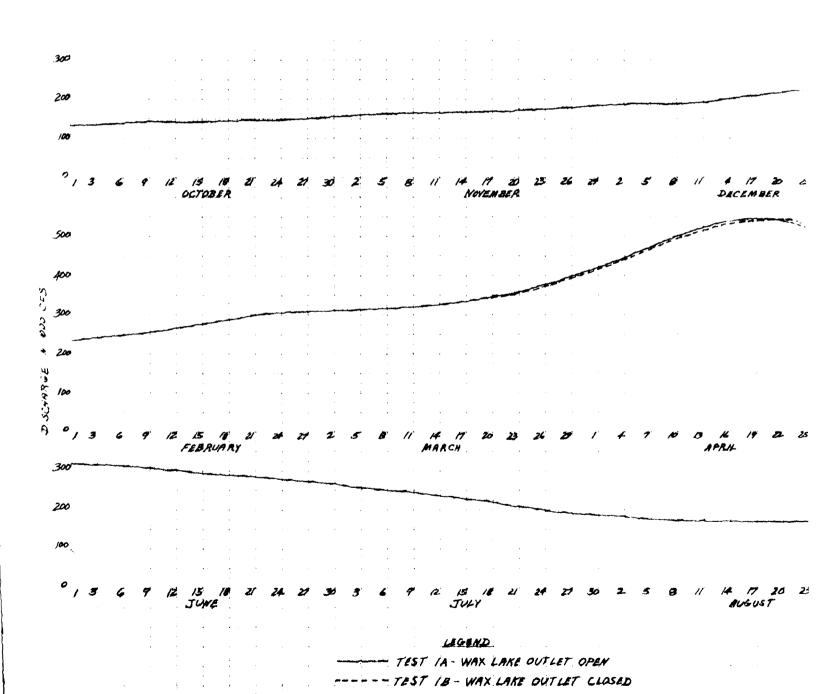
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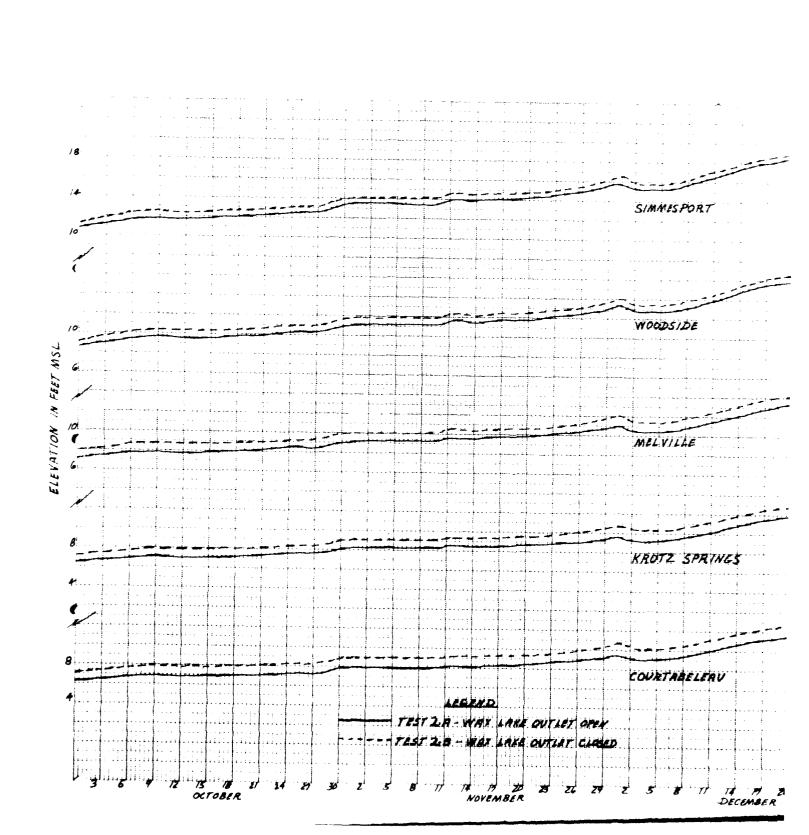
IB - WAX LAKE OUTLET CLOSED

P(AT) 38

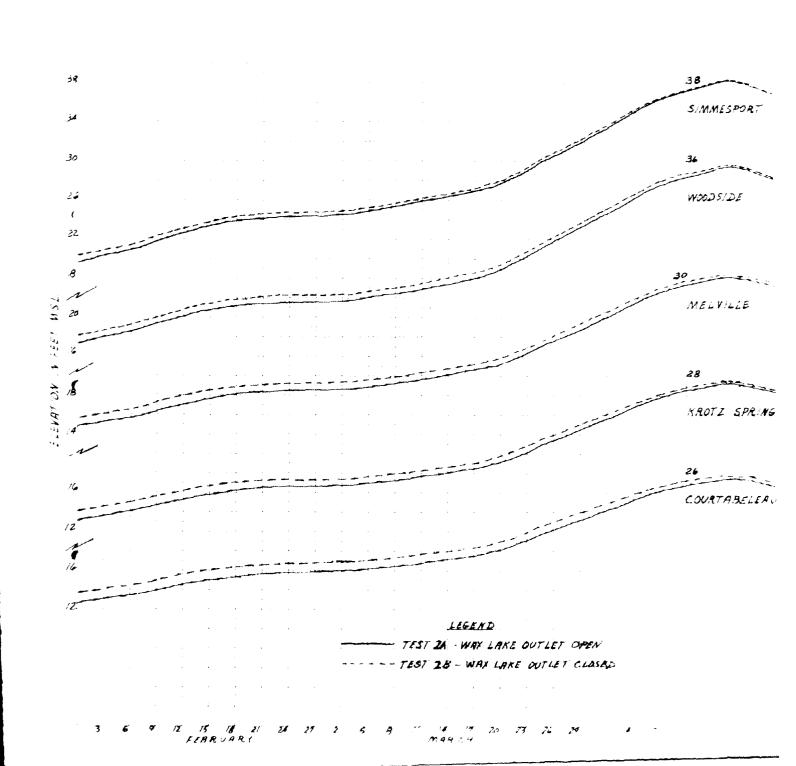
DISCHARGE HYDROGRAPHS-TEST IAB

AVERAGE ANNUAL FLOWS - OCT - SEPT.

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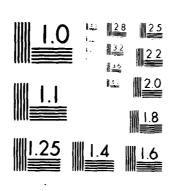


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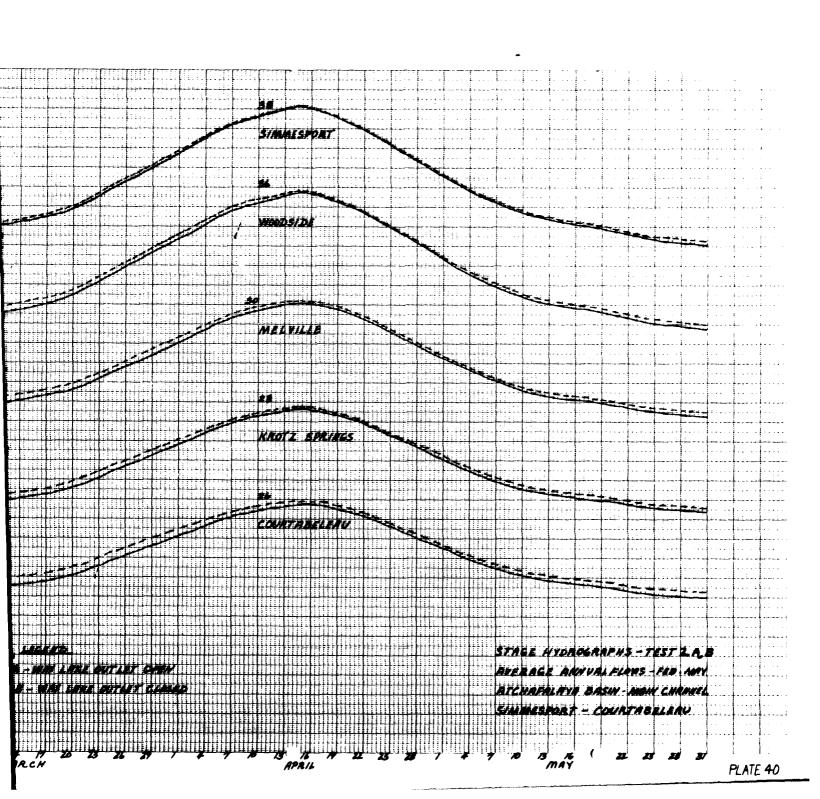
ARMY ENGINEER WATERWAYS EXPERIMENT STATION VICKSBURG MS F/G 13/2 EFFECTS OF CLOSING WAX LAKE OUTLET AND CONSTRUCTING MANAGEMENT --ETC(***) NOV 80 J E FOSTER, J V ALLEN IAO-LMNED-79-46 WES-MISS-BASIN MODEL-31-8 NL AD-A093 415 UNCLASSIFIED

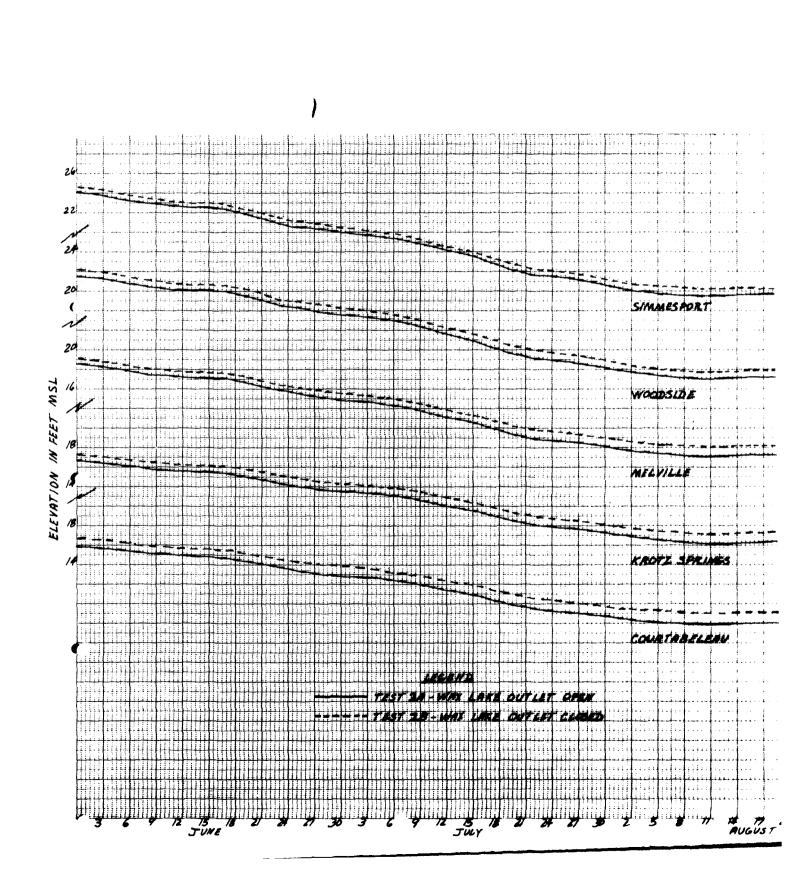
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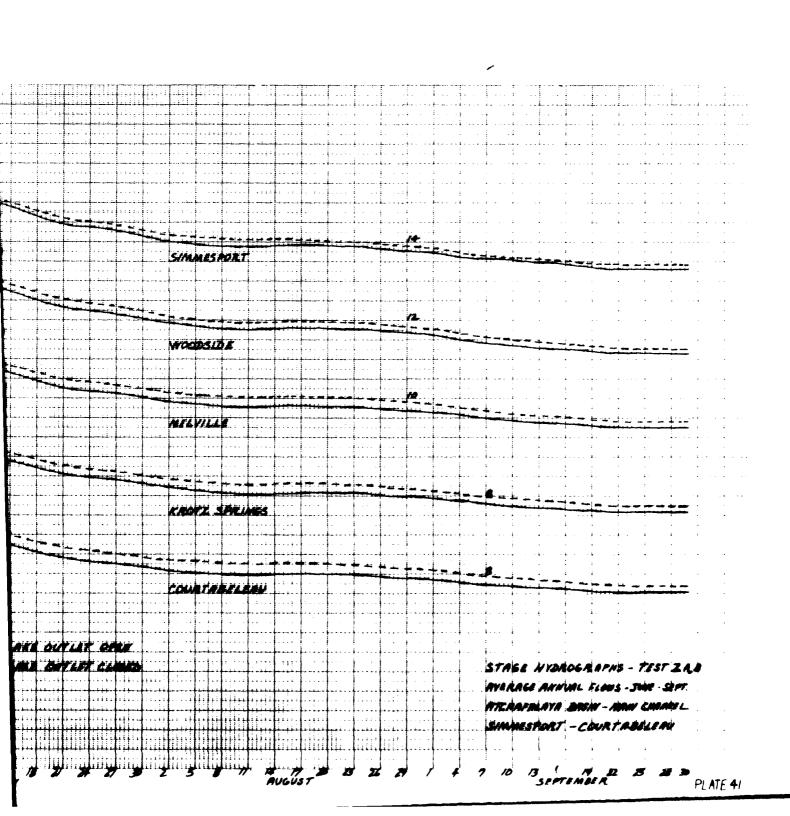


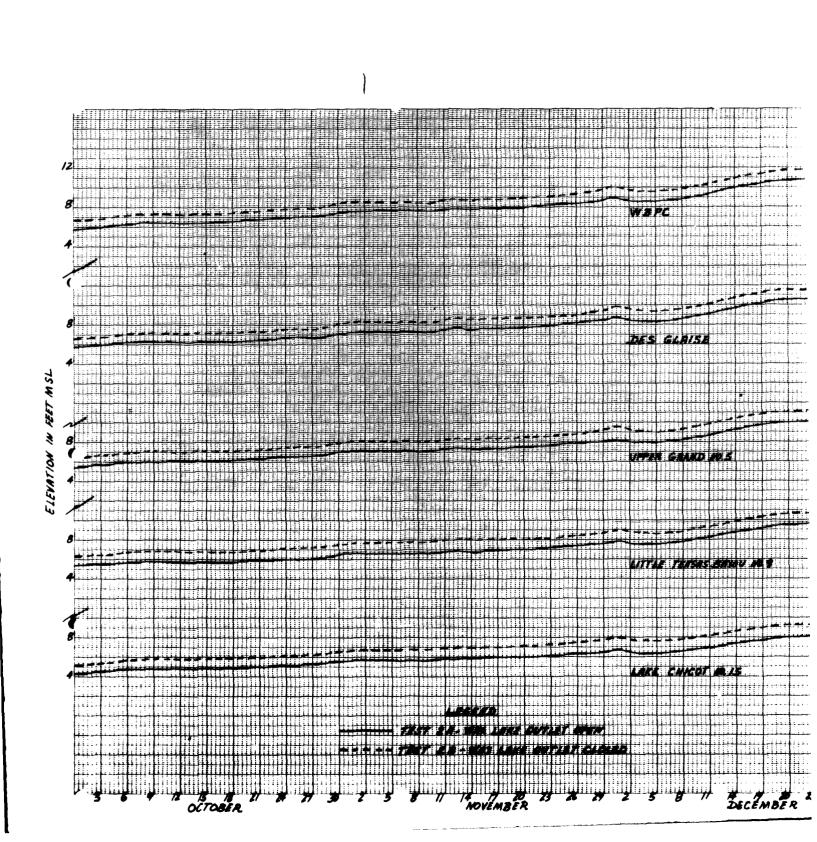
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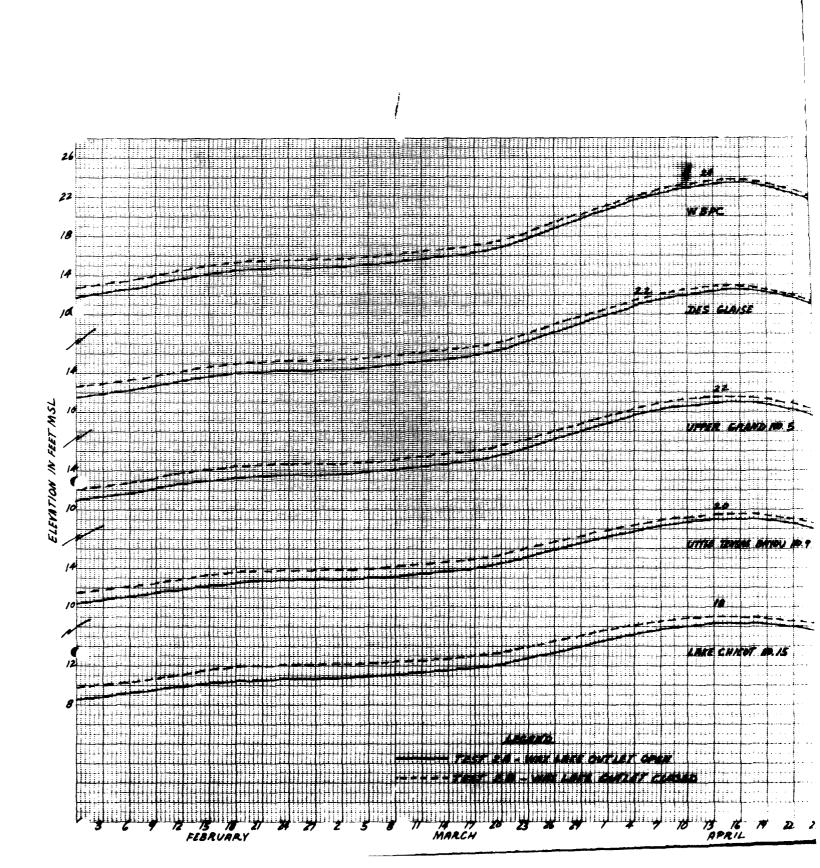


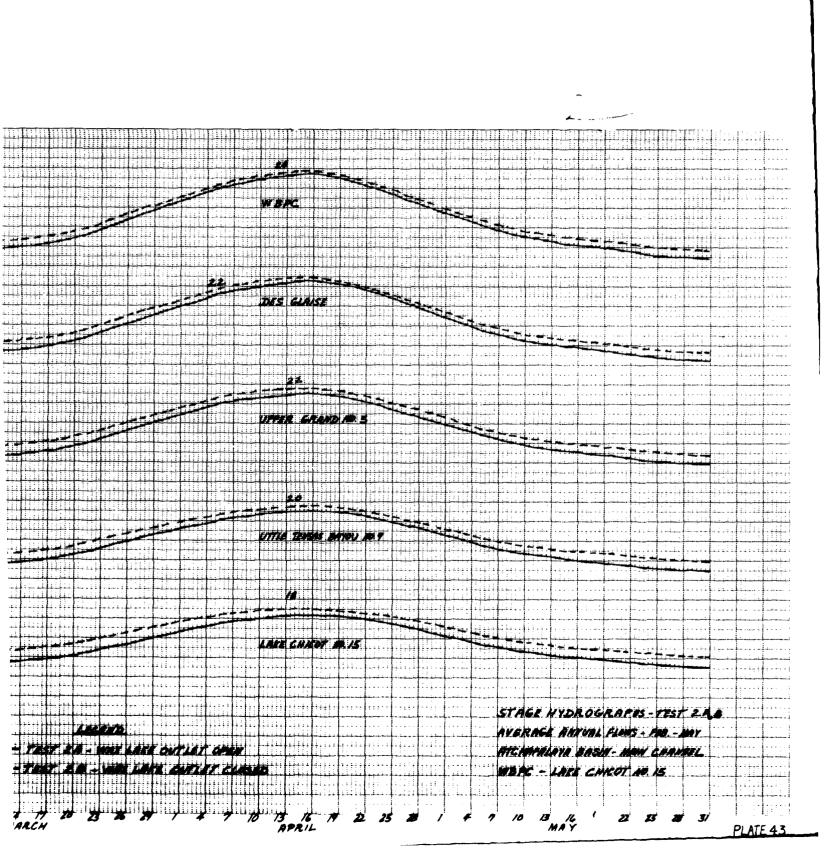


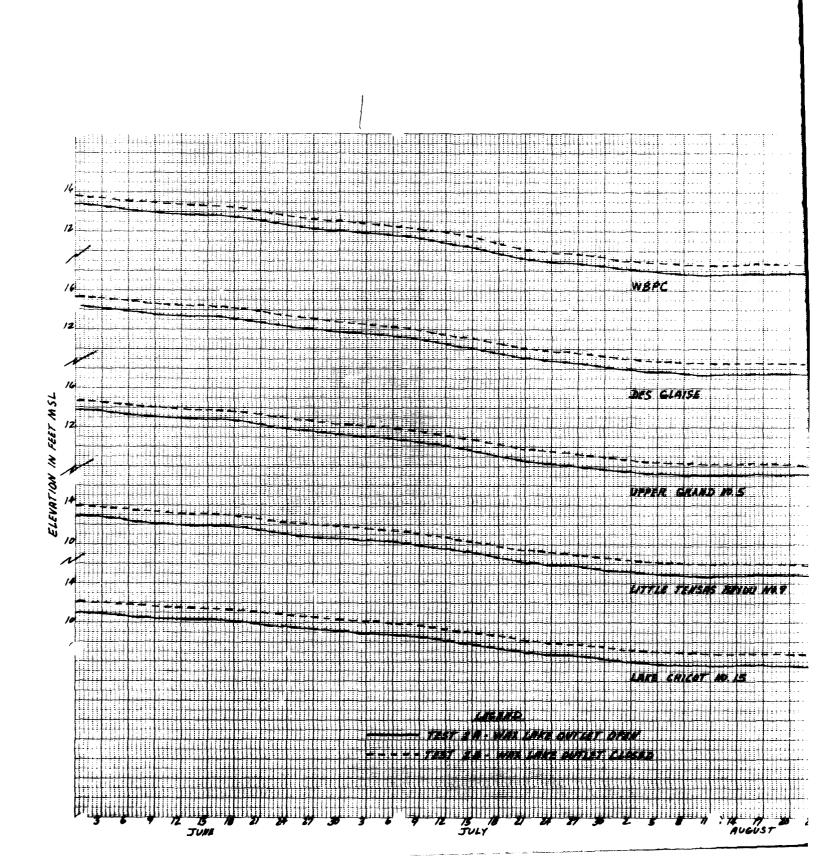


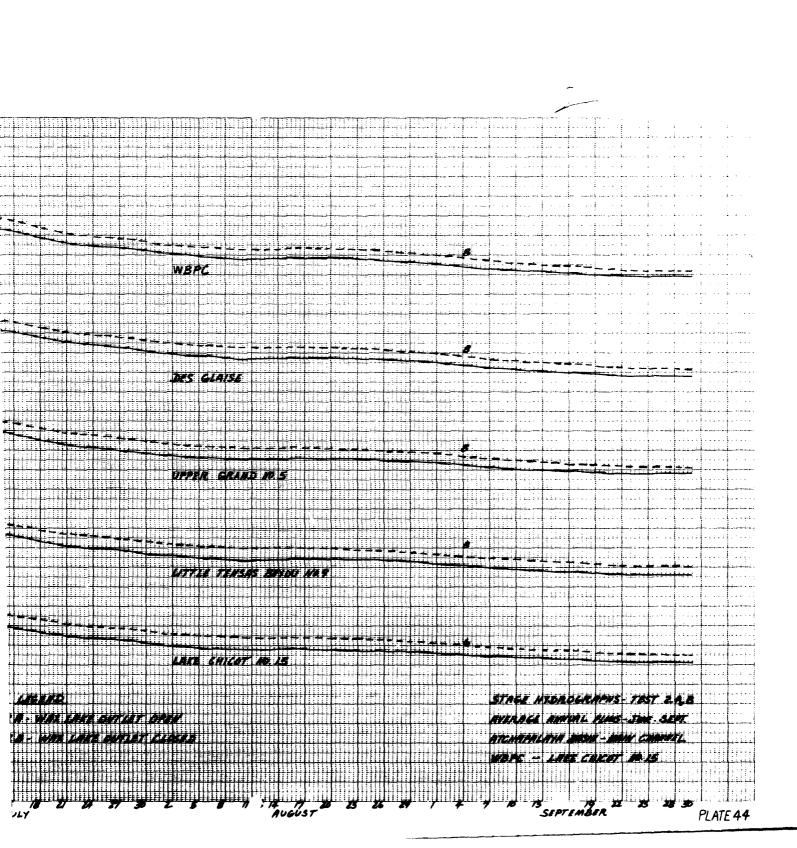


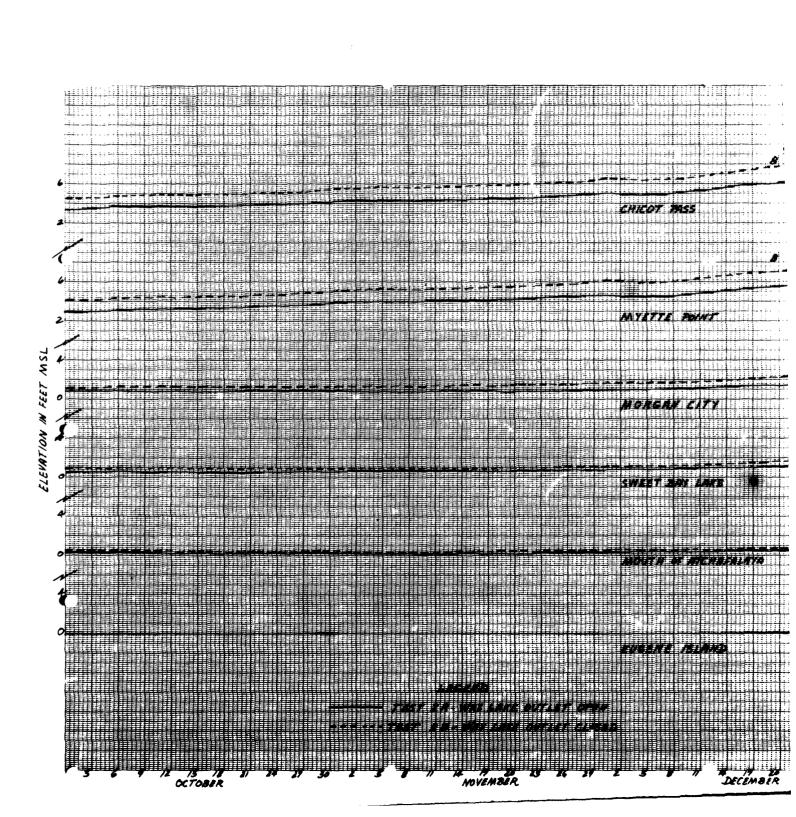
WEPC PLATE 42

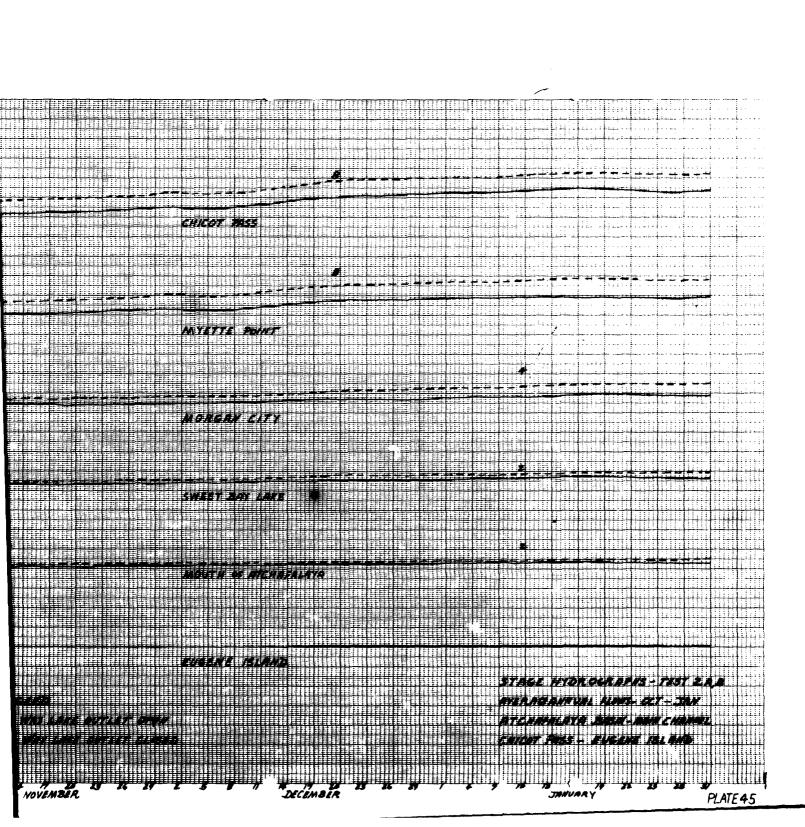


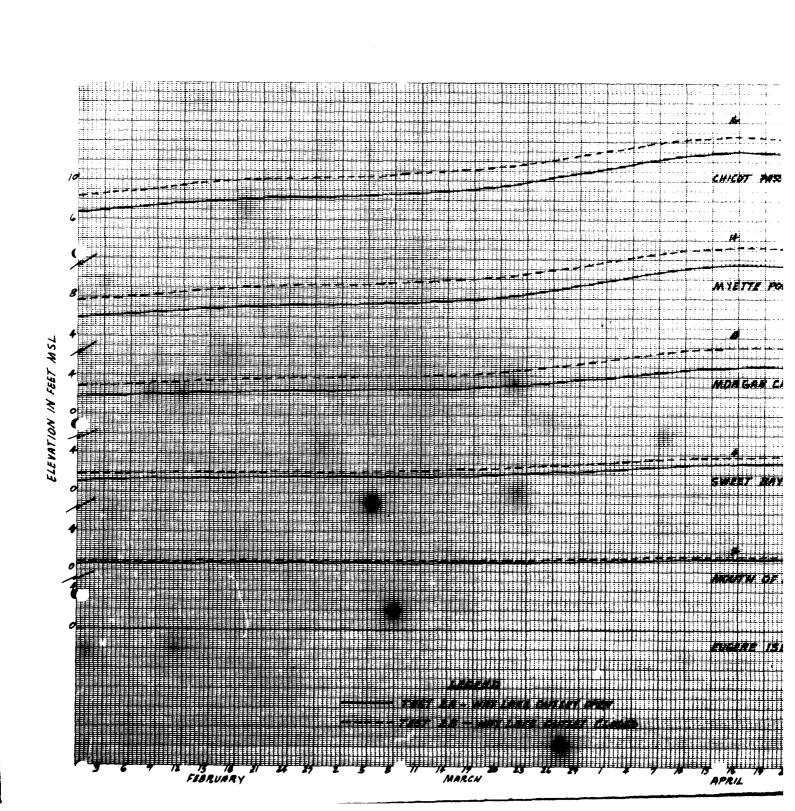


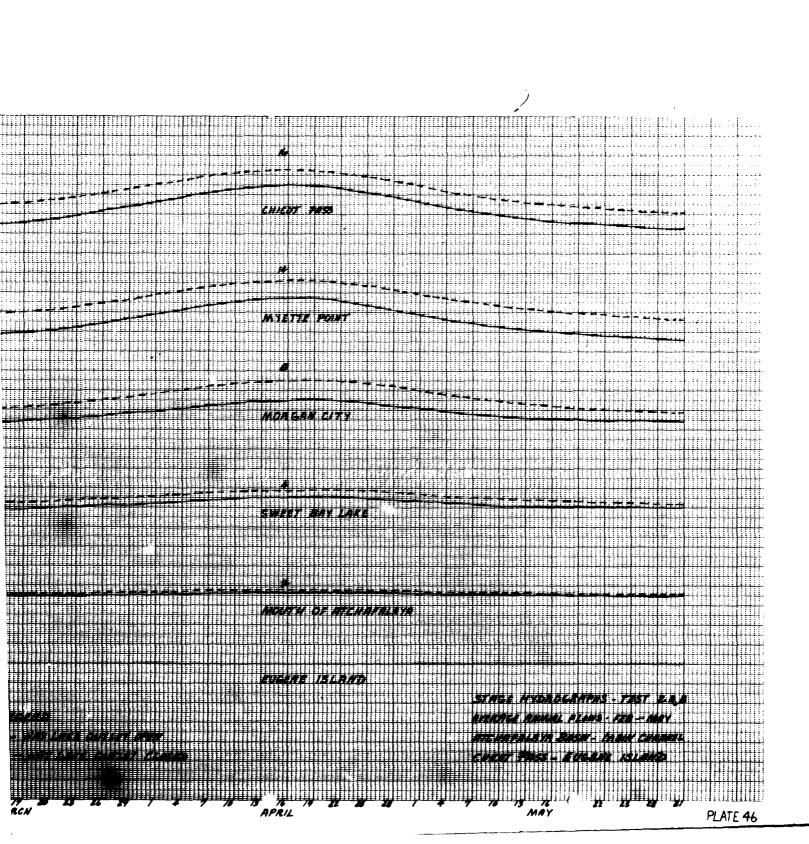












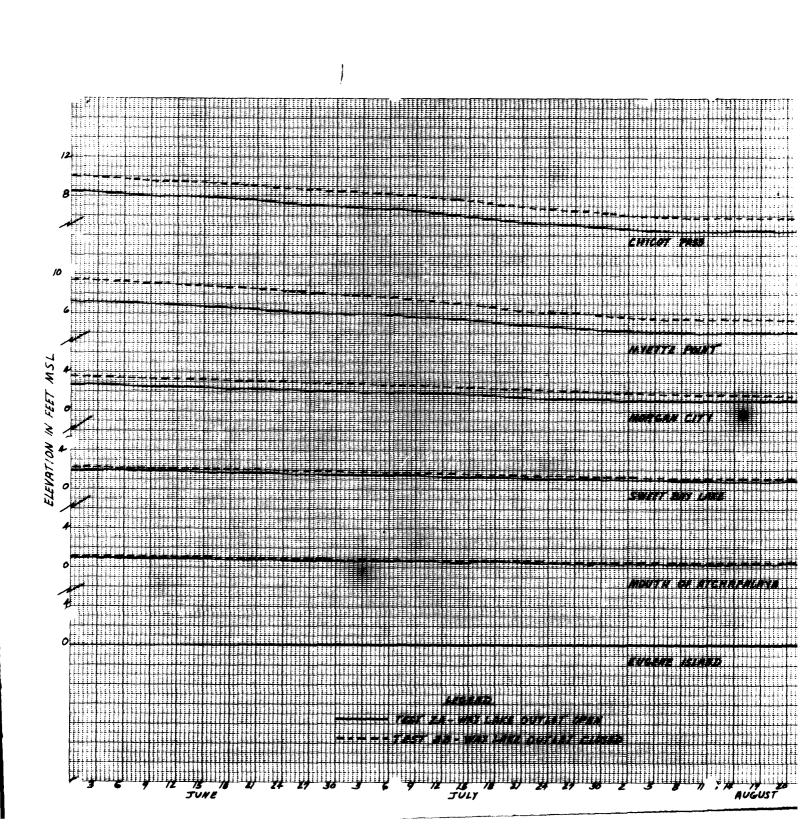
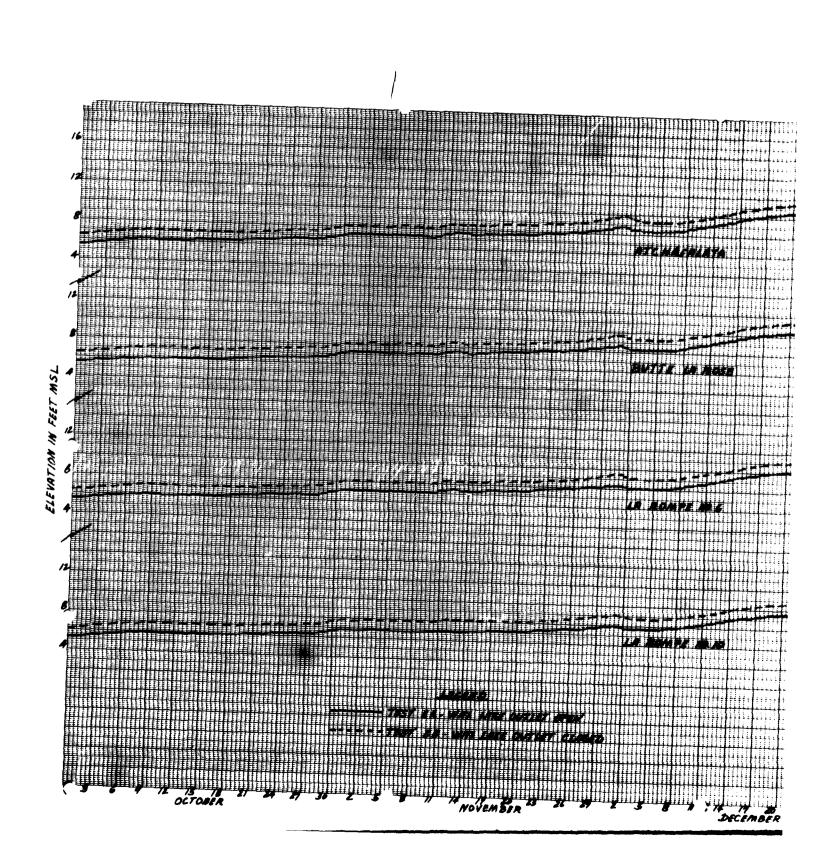
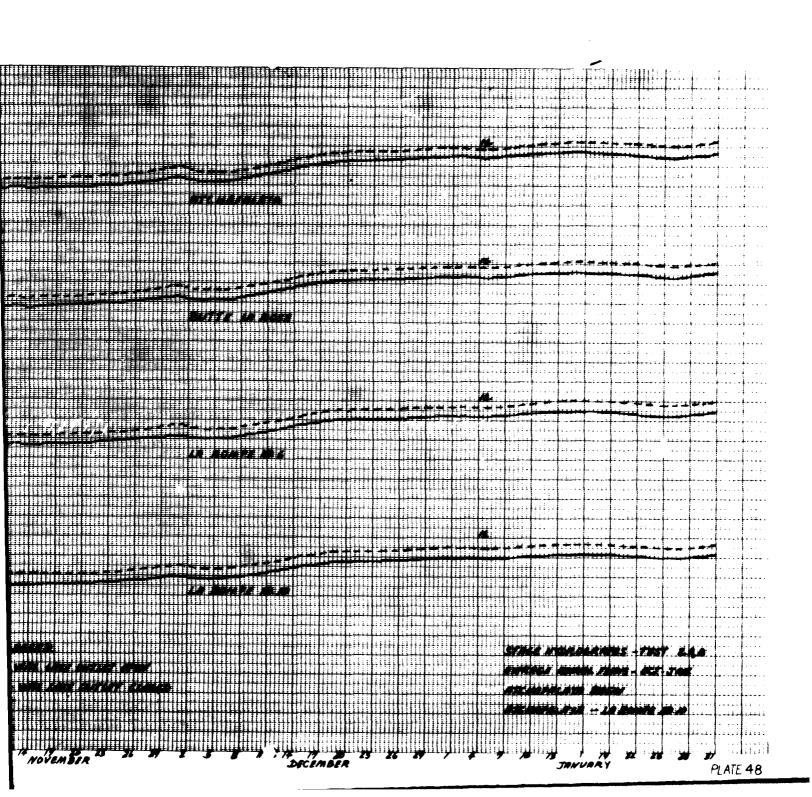
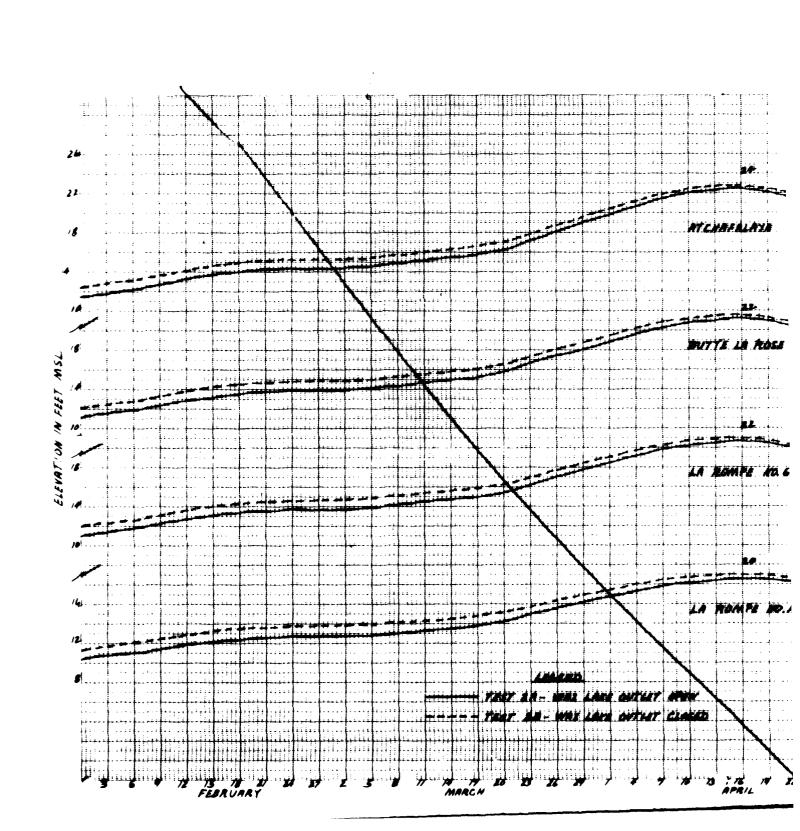
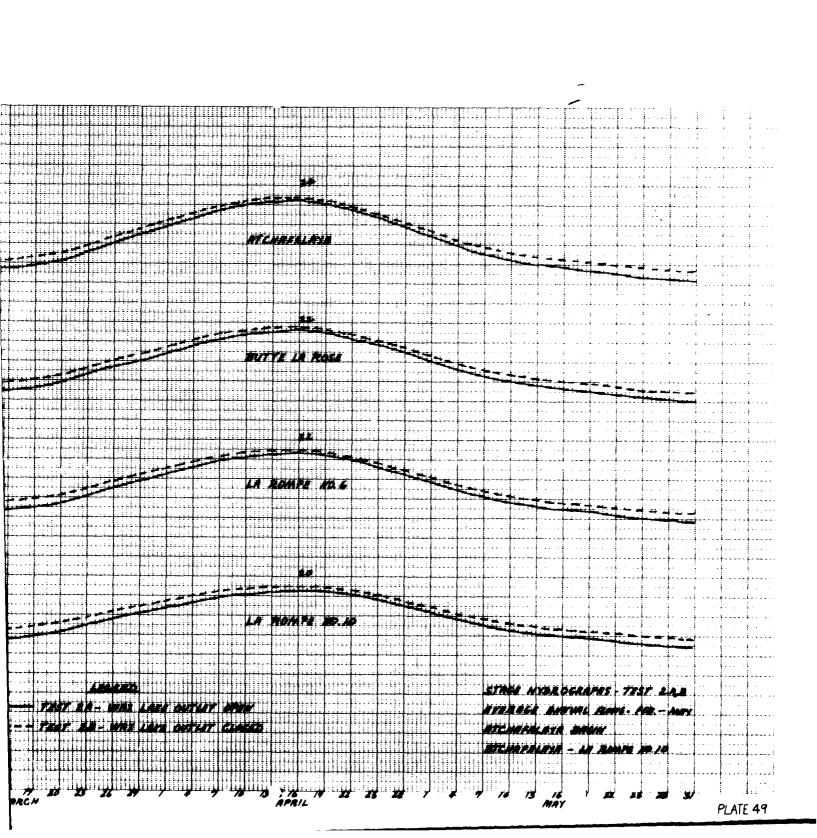


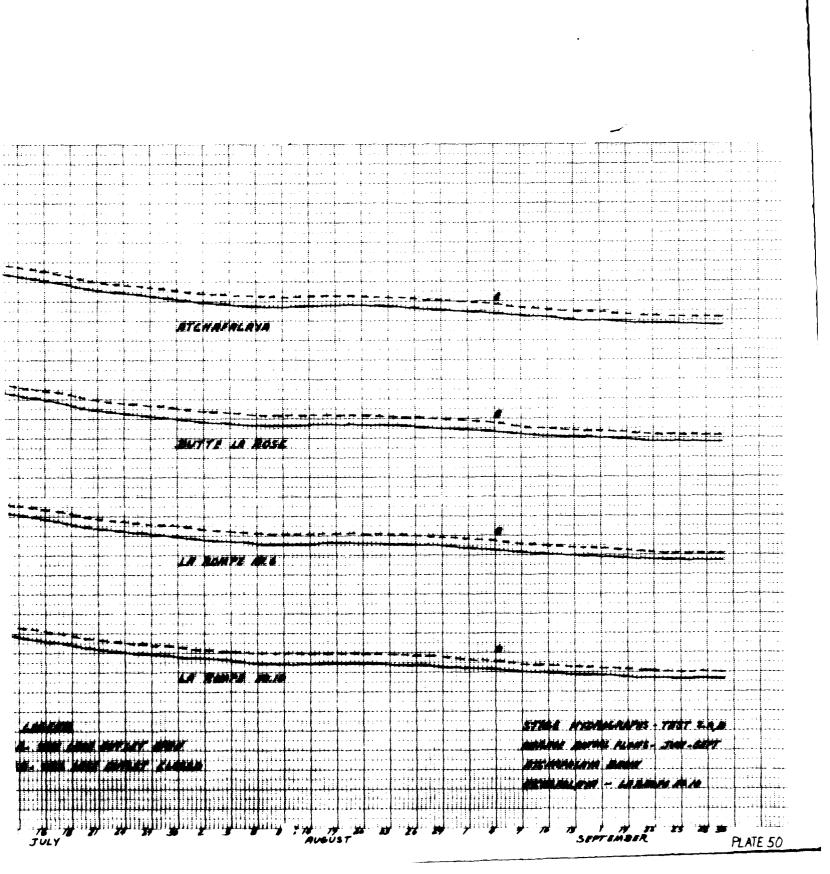
PLATE 47

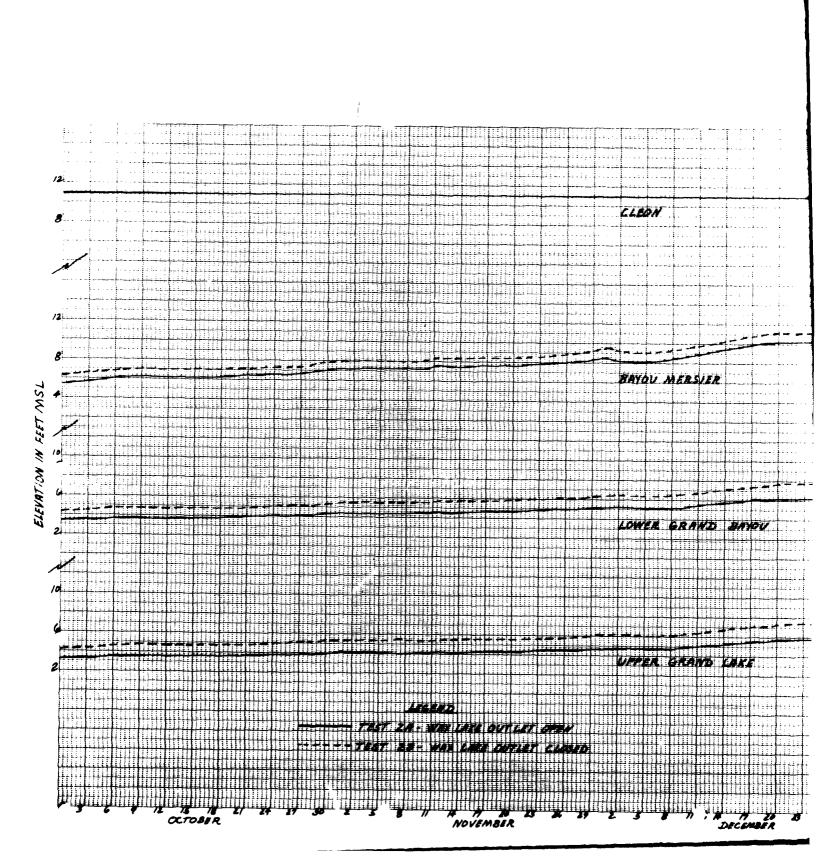


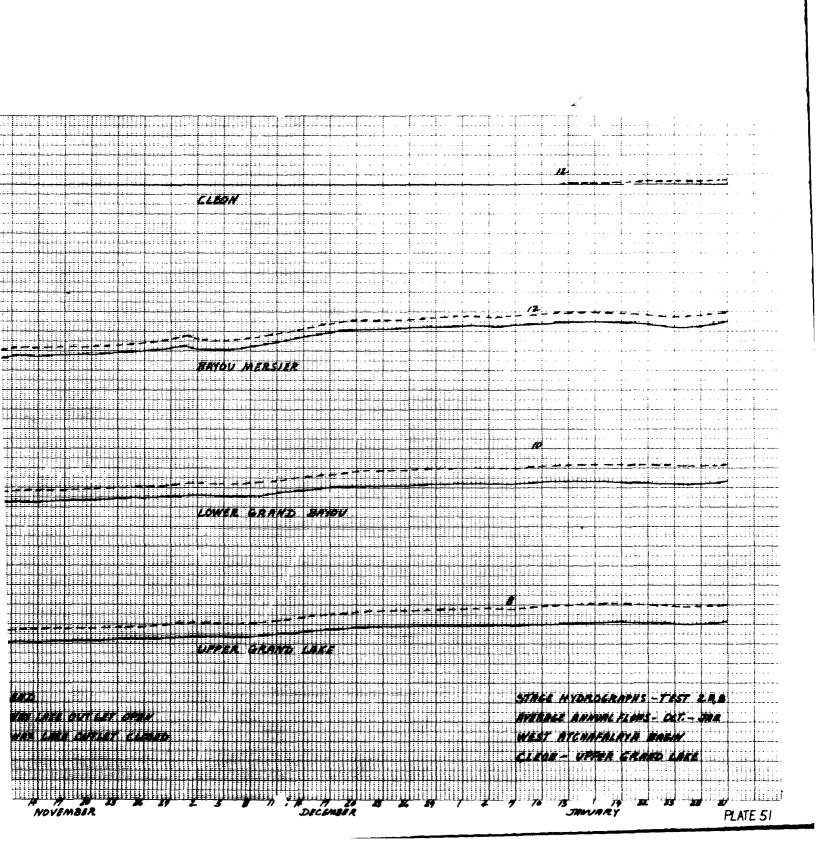


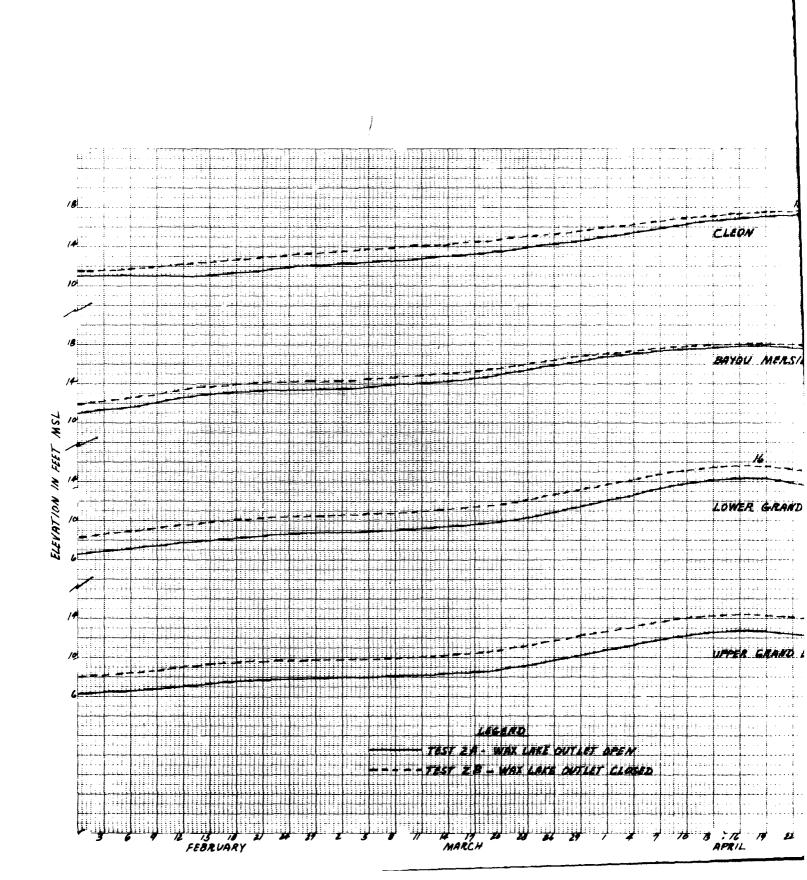


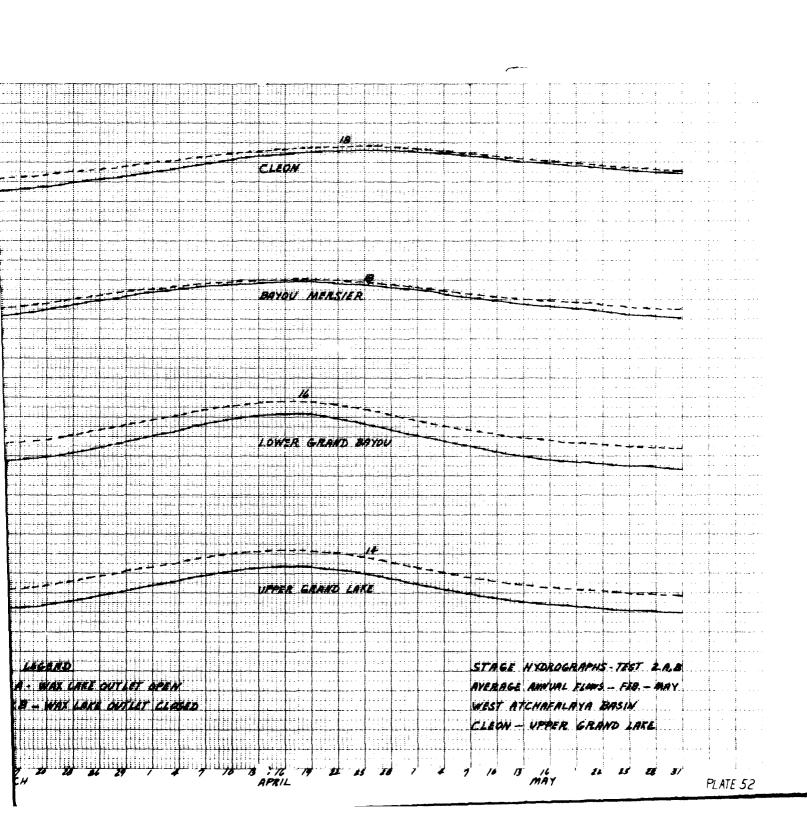


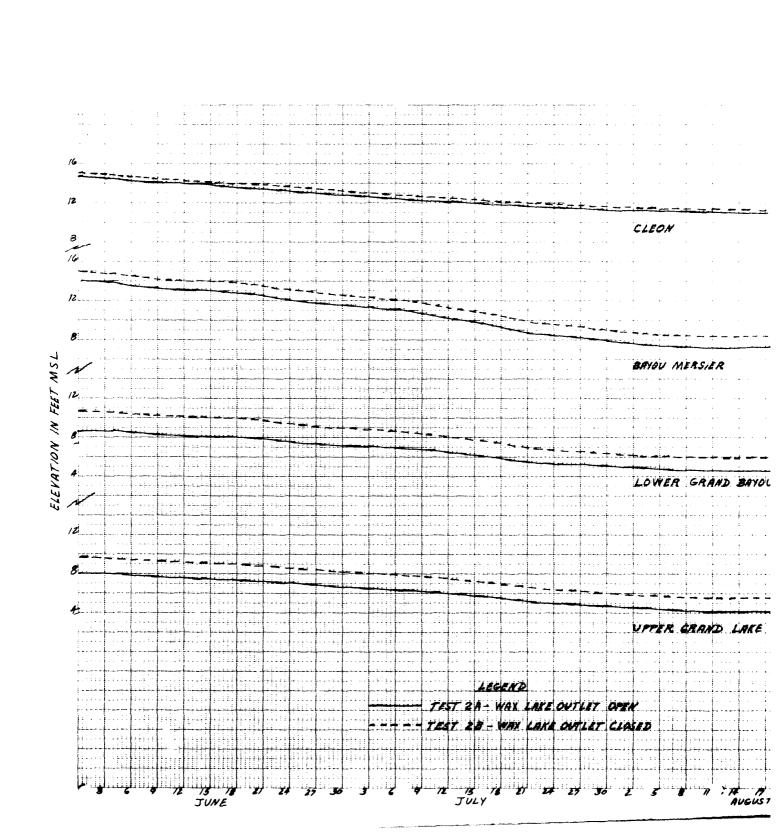




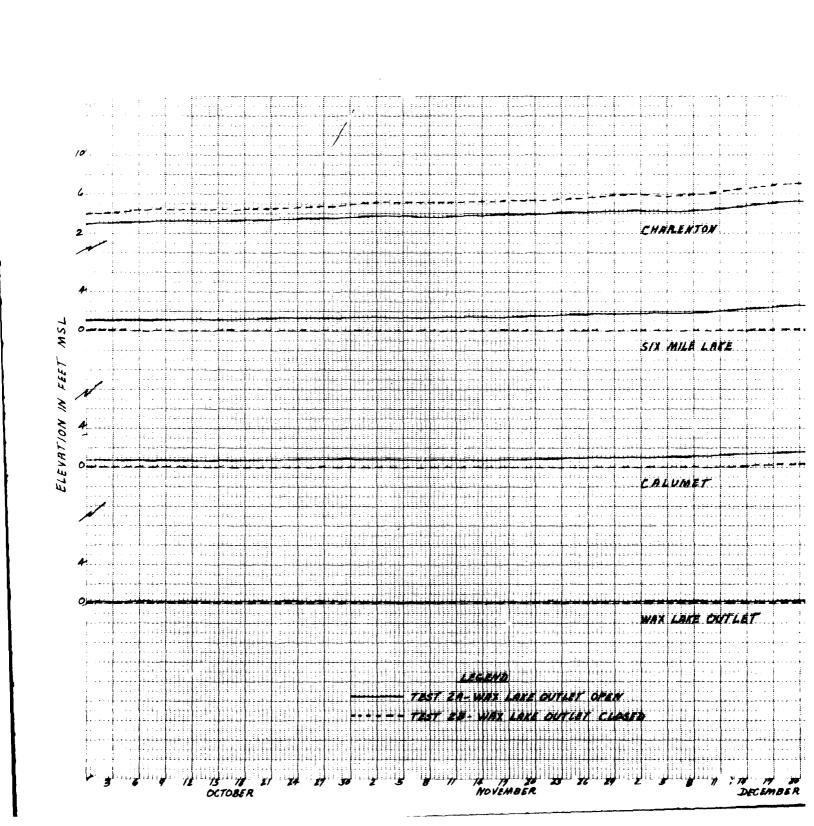


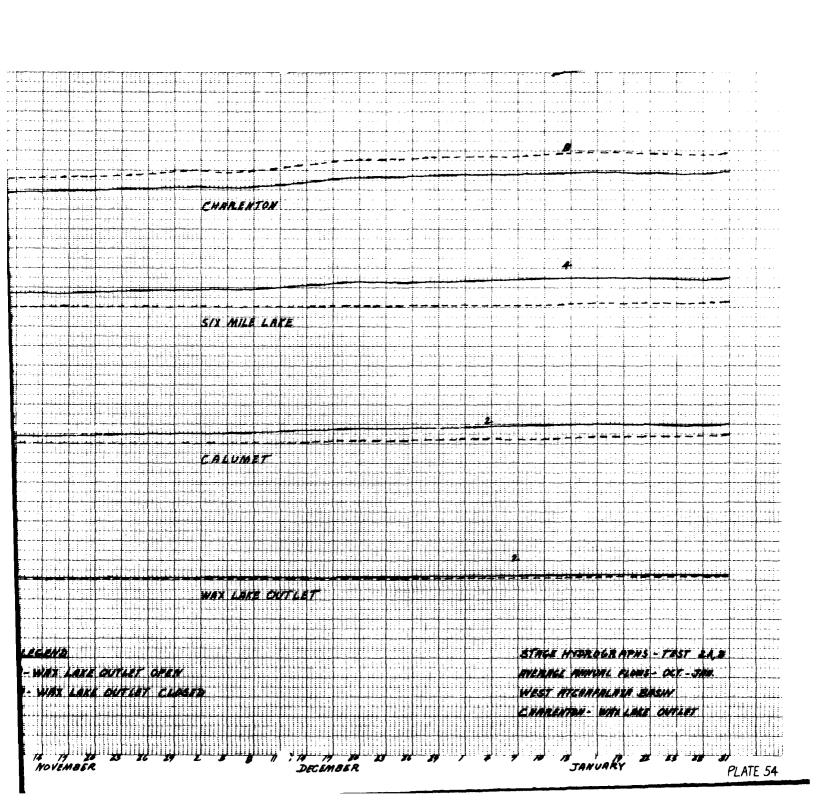


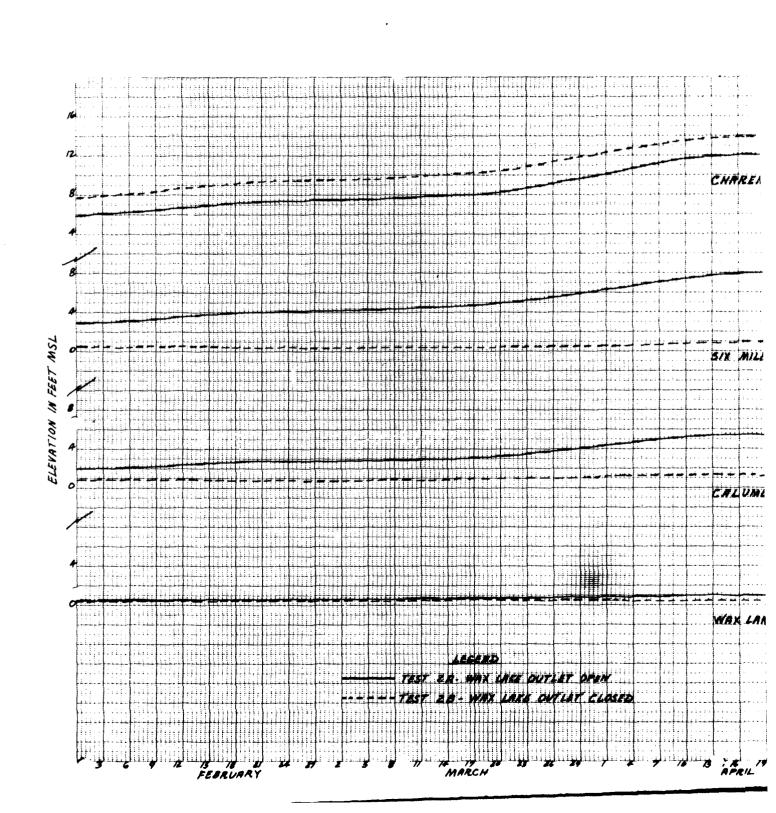


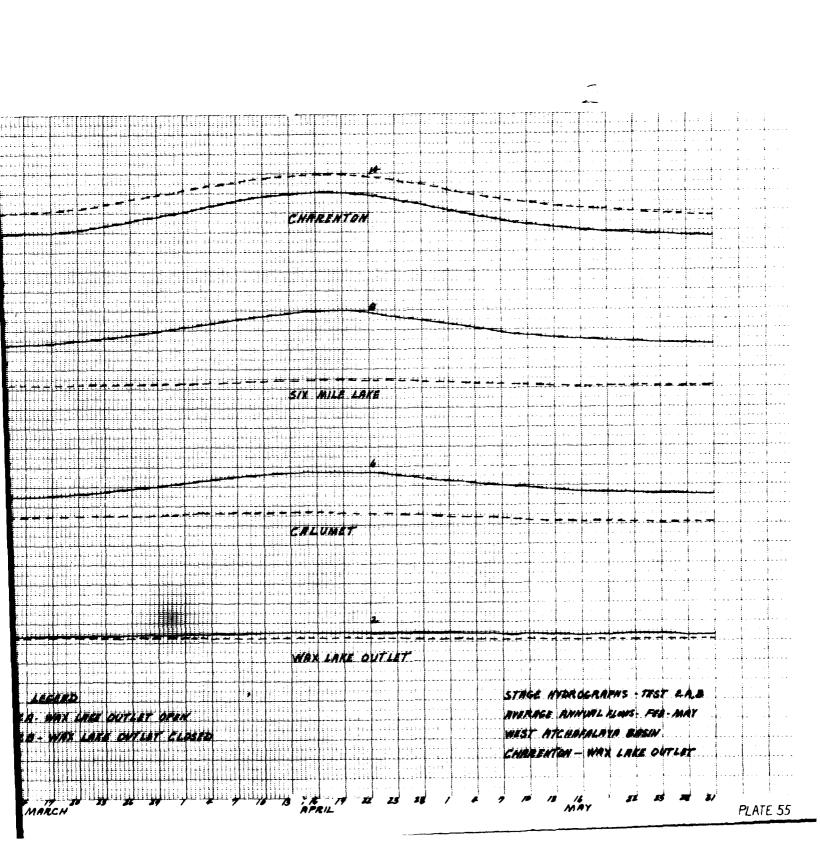


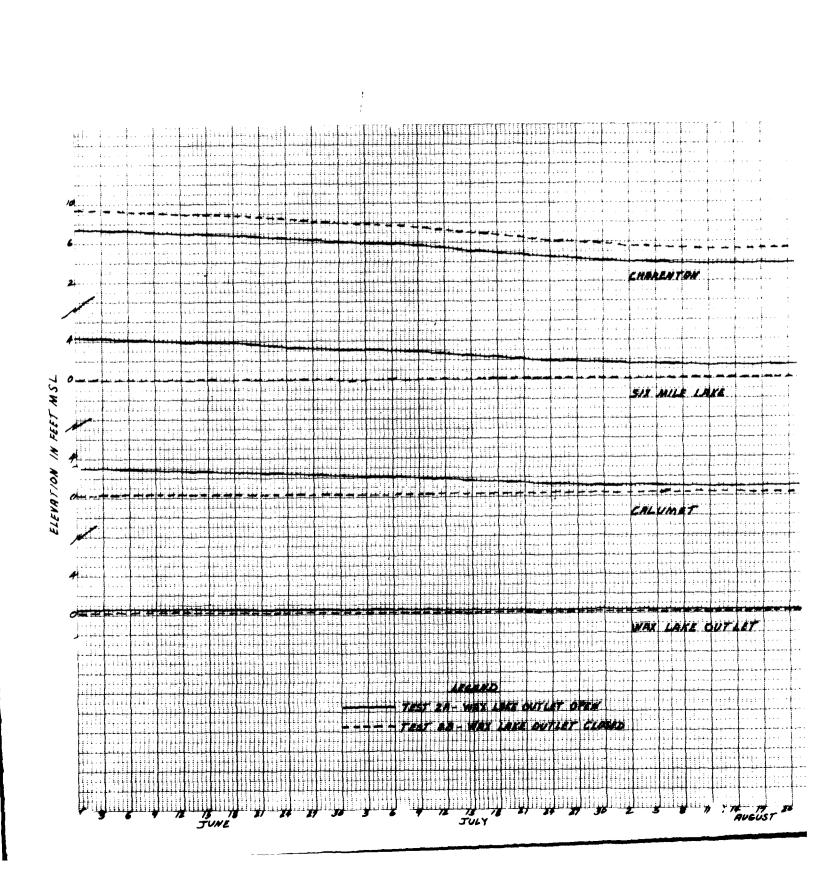
CLEON BAYOU MERSIER LOWER GRAND BAYOU UPPER CRAND LAKE STAGE HYDROGRAPHS- TEST WAX LAKE OUTLET OPEN AVERAGE ANNUAL FLOWS - JUNE-SEPT WEST ATCHAFALAYA BASIN CLEON - UPPER GRAND LAKE AUGUST SEPTEMBER PLATE 53





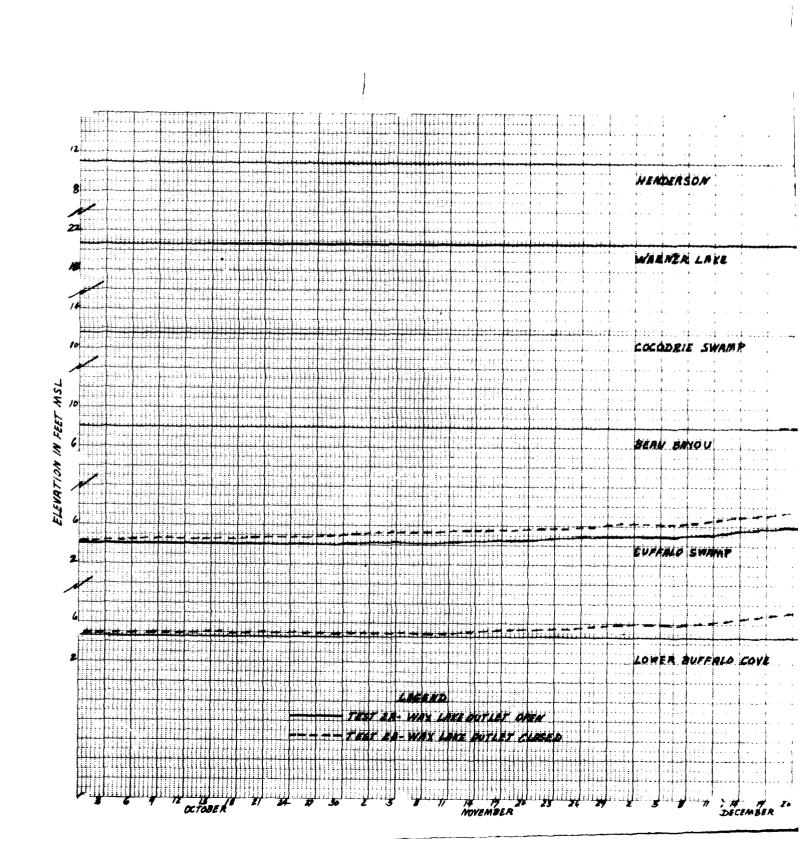




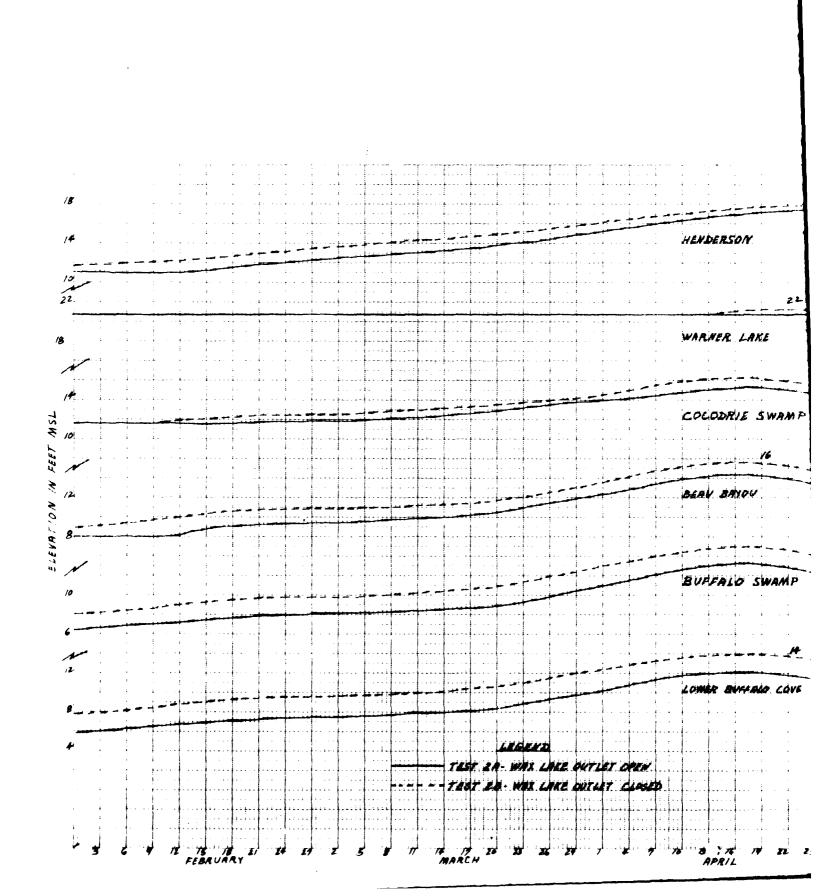


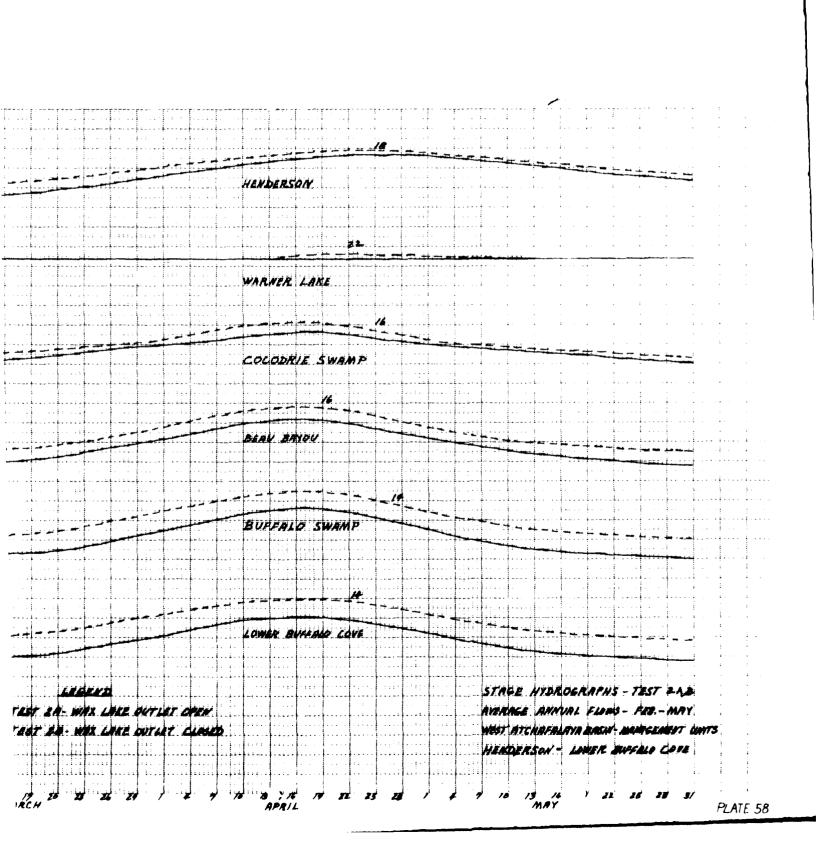
CHARLHTON WHY LIKE OUTLET OFFE STAGE NYDROGRAPHS - TEST ZA. B. AVERAGE AMAUAL GLOWS - JOST SEPT. WEST MICHANILAYA MASIN PLATE 56 SEPTEMBER

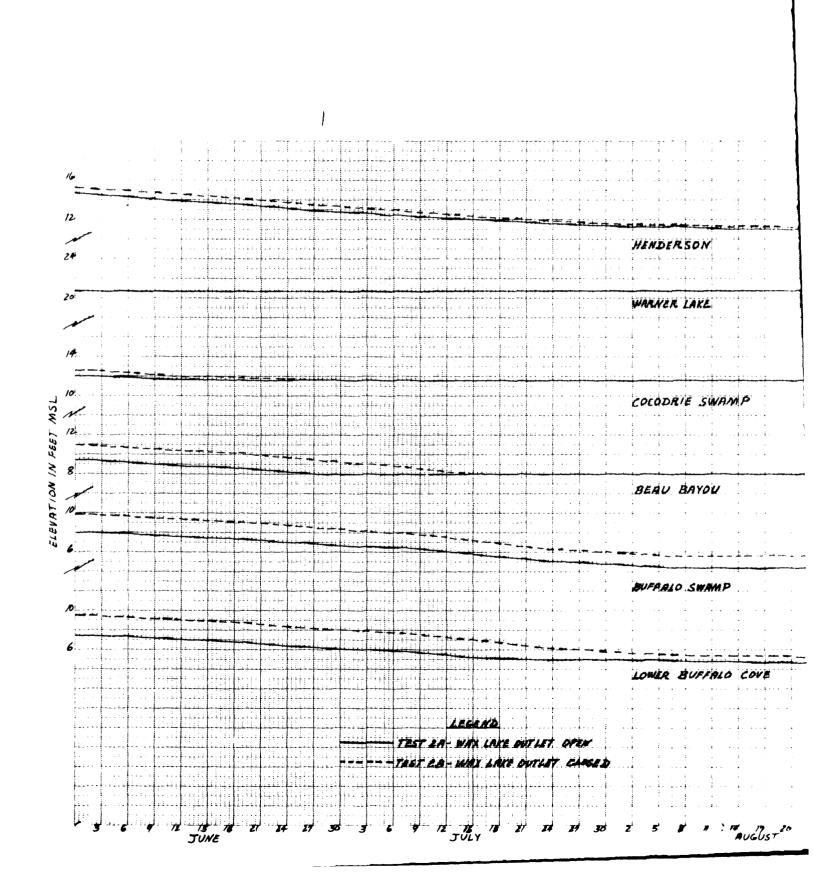
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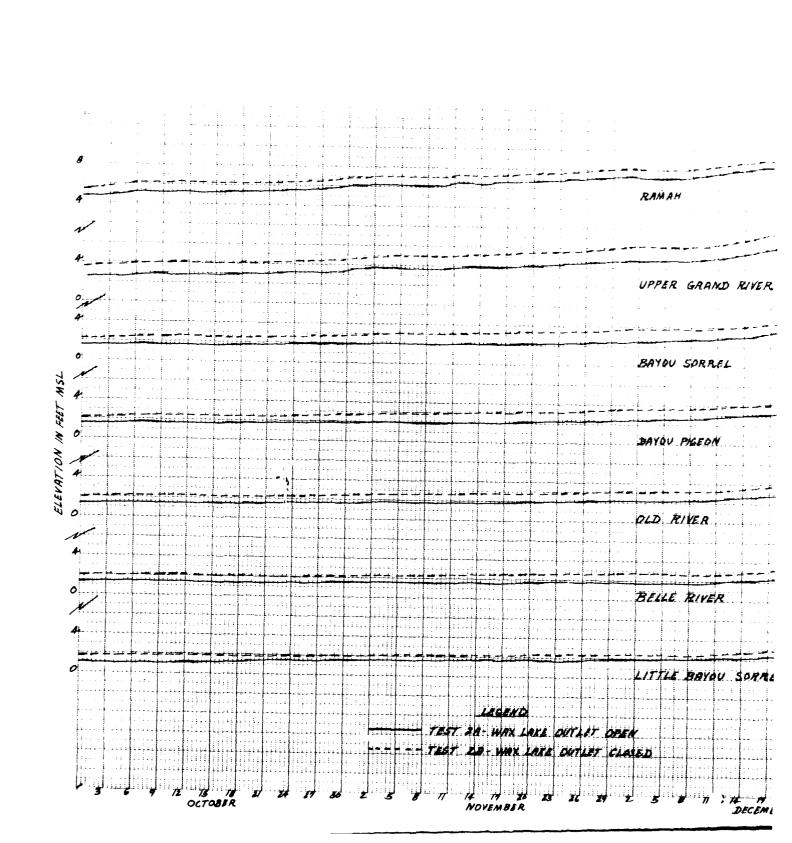
HENDERSON WARNER LAKE BEAU BAYOU EUPRALO SWAMP LOWER BUFFRLO COVE STAGE HYDROGRAPHS -TEST ZA,B KE DUTLET OVEN MENDERSON - LOWER BUFFRLO COVA P. AT. G.

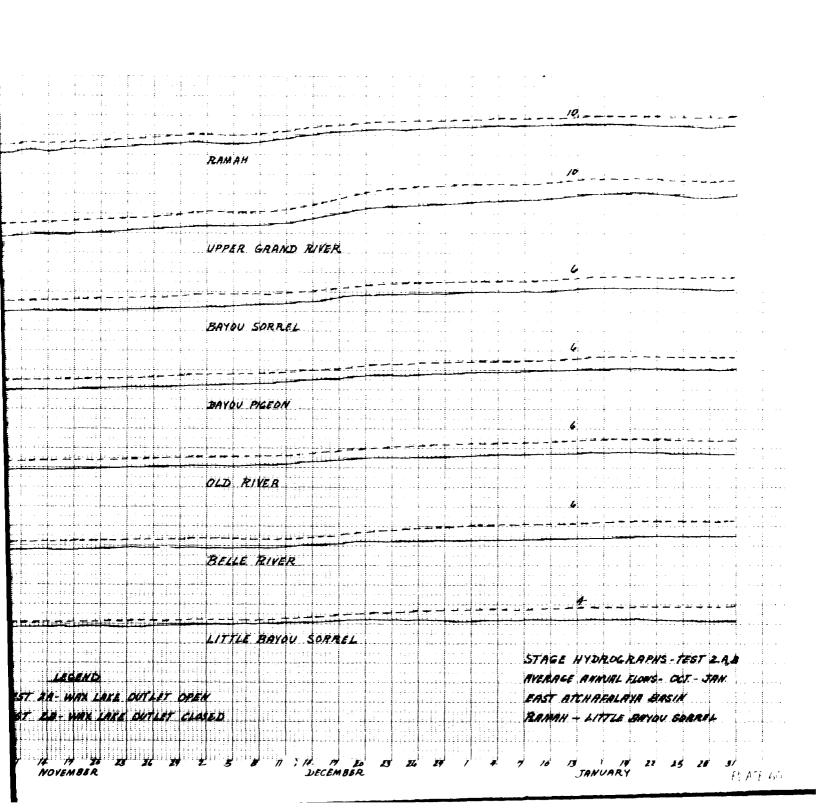


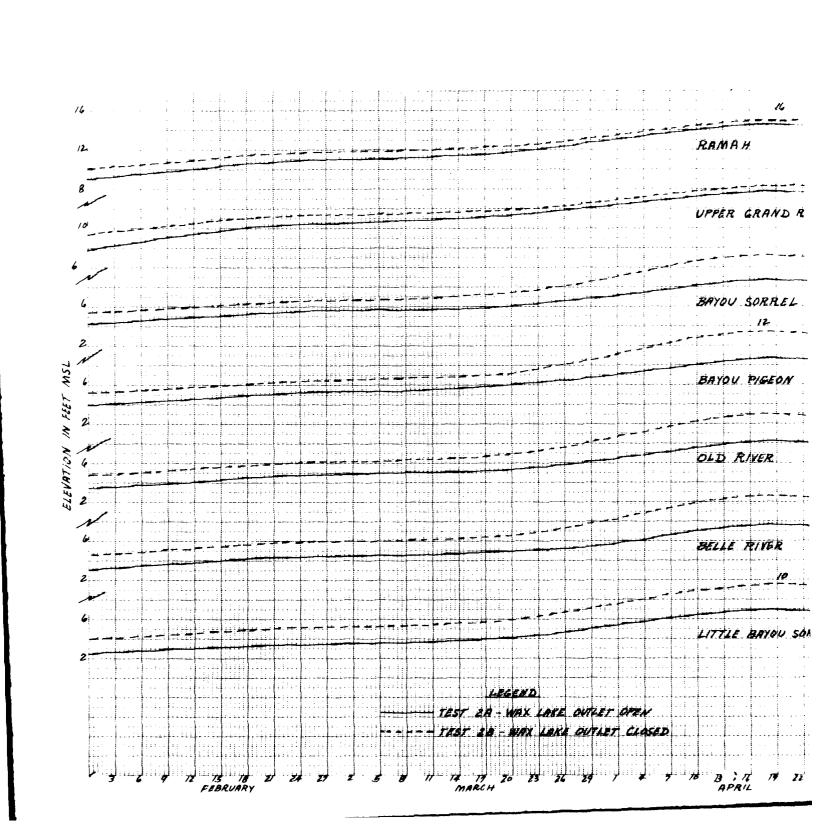




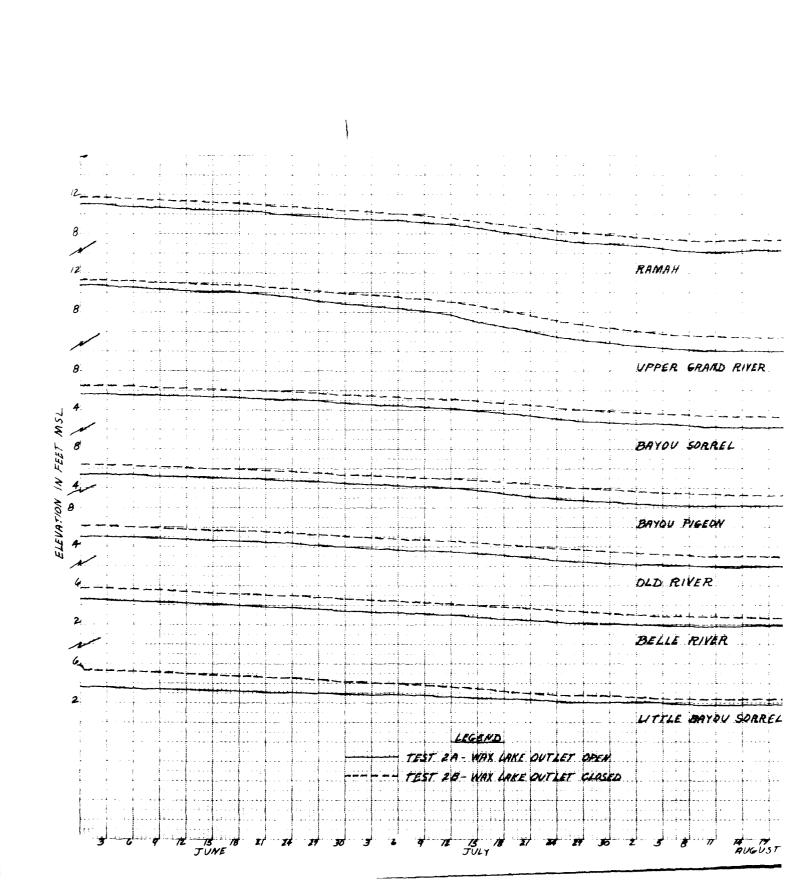
HENDERSON WARNER LAKE COCODRIE SWAMP BEAU BAYOU BUFFALO SWAMP LOWER BUPFALO COVE STAGE NYDROGRAPHS - TEST 2.48 UNX LAKE OUTLET OFEN RYANGE ANNUAL FLOWS - JUNE - SEPT. MAX LAKE DUTLET CARGED WEST ATCHAPALITY BINGIN- MANAGEMENT LIVES HENDERSON - LOWER BUFFALO COVE PLATE 59

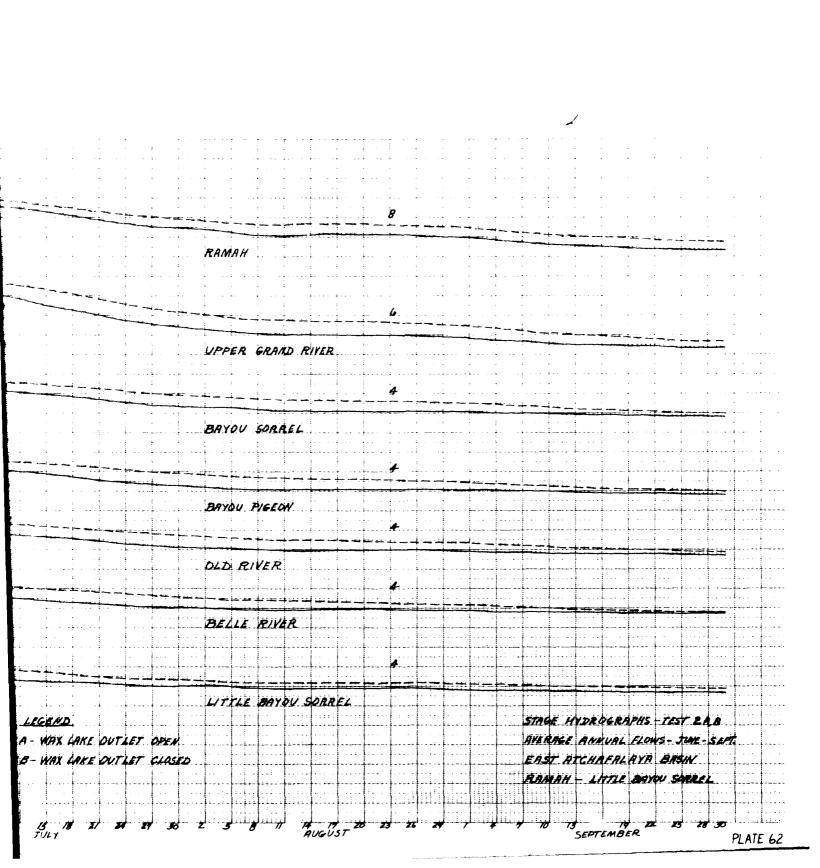


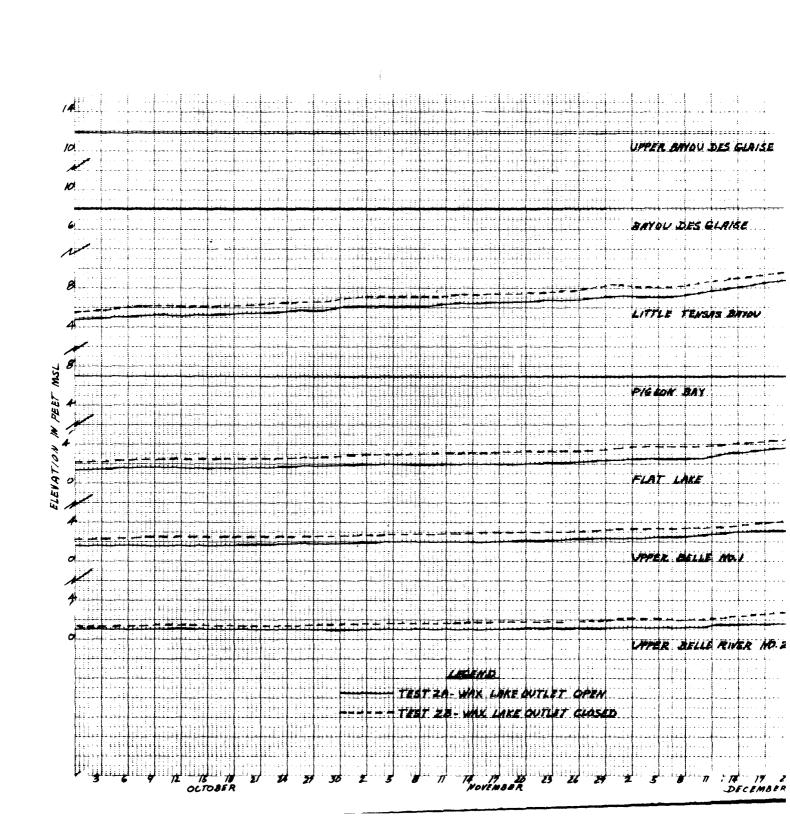


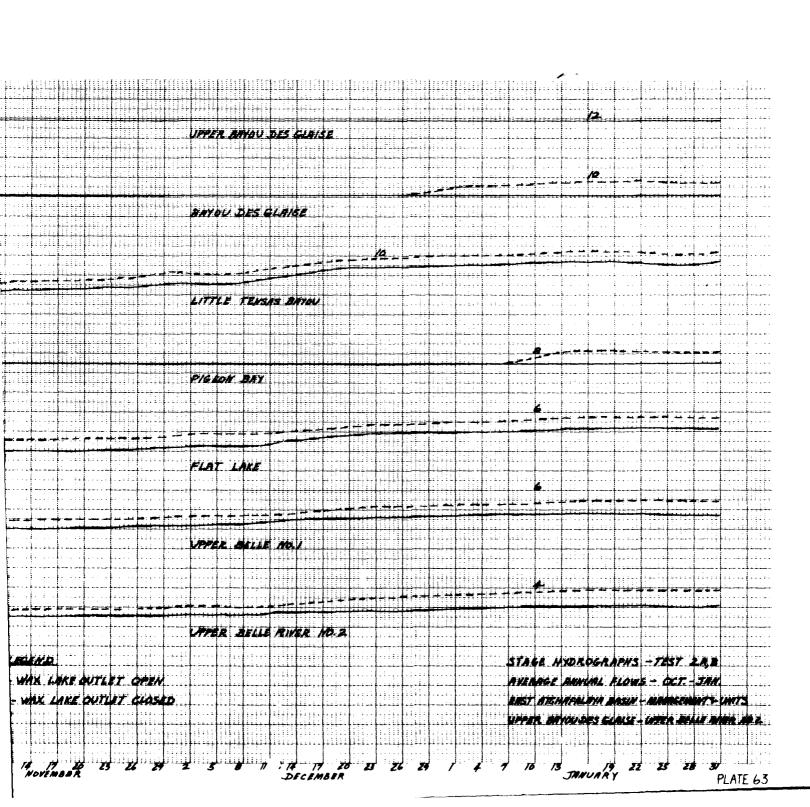


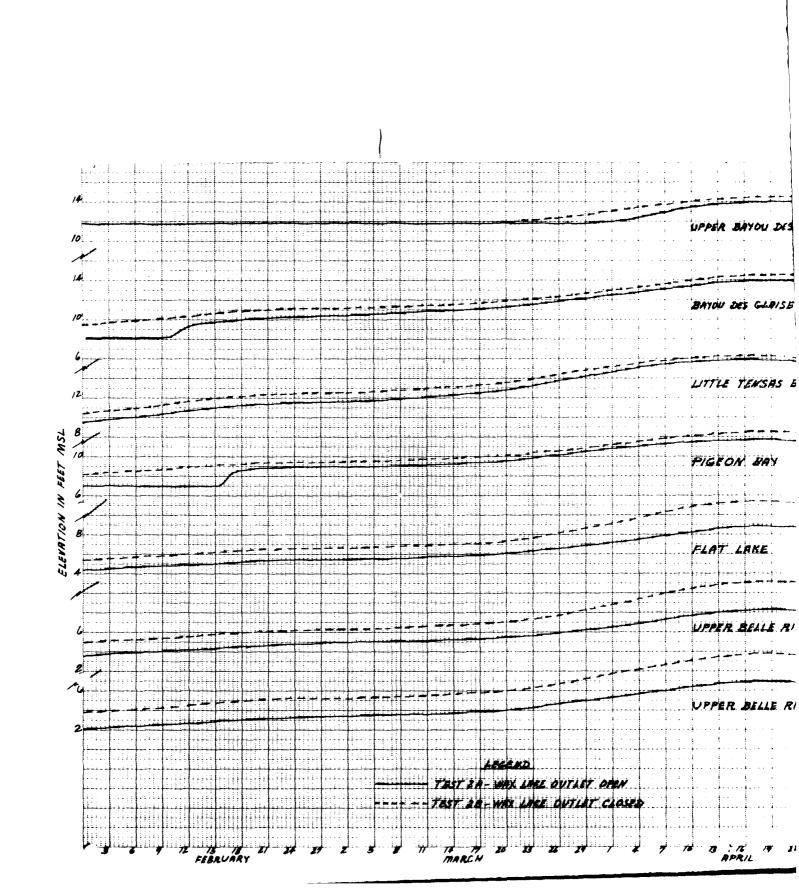
UPPER GRAND RIVER BAYOU SORREL BAYOU PIGEON OLD RIVER BELLE RIVER LITTLE BAYOU SORREL STAGE HYDROGRAPHS - TEST 2AB MICRAGE ANNUAL FLOWS - FEB - MAY A - WAX LAKE OVILET OPEN BAST ATGUARALAYA BASIN RAMAN - LITTLE WAYOU SORREL LOKA OUTLET CLASED PLATE 61



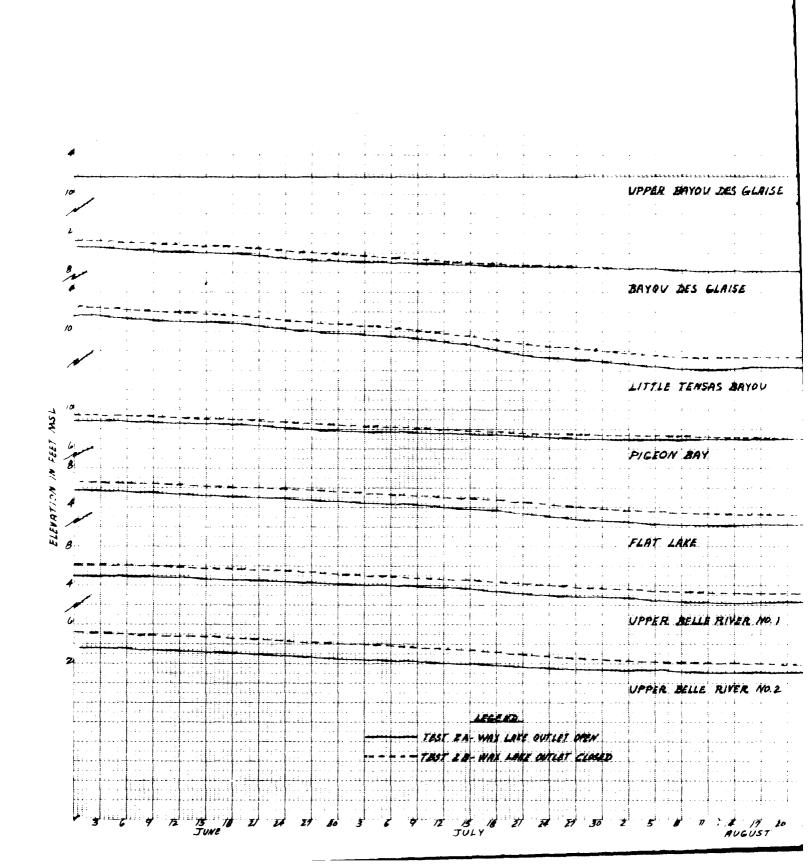




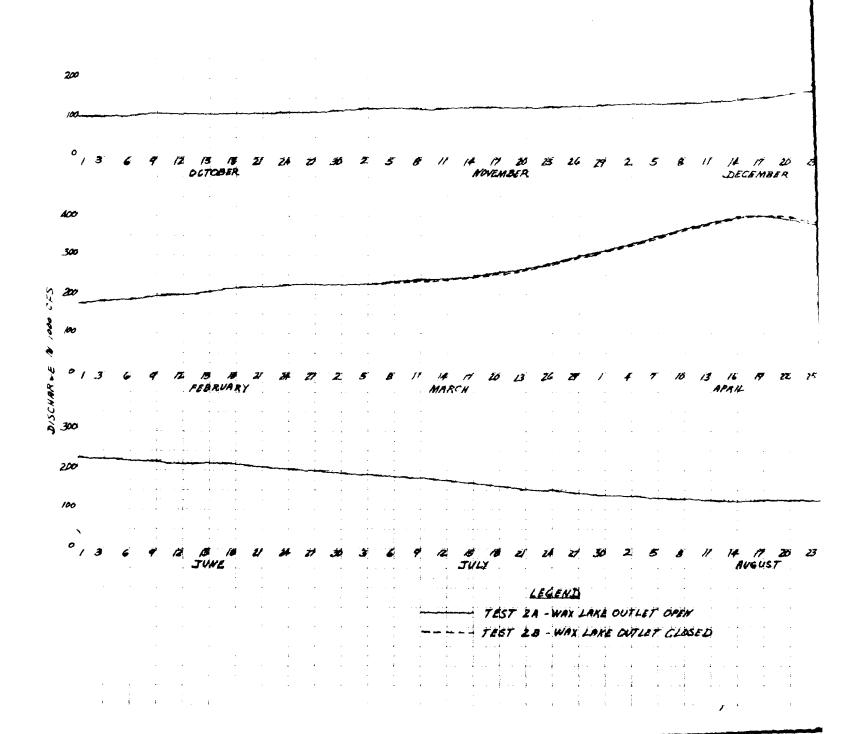




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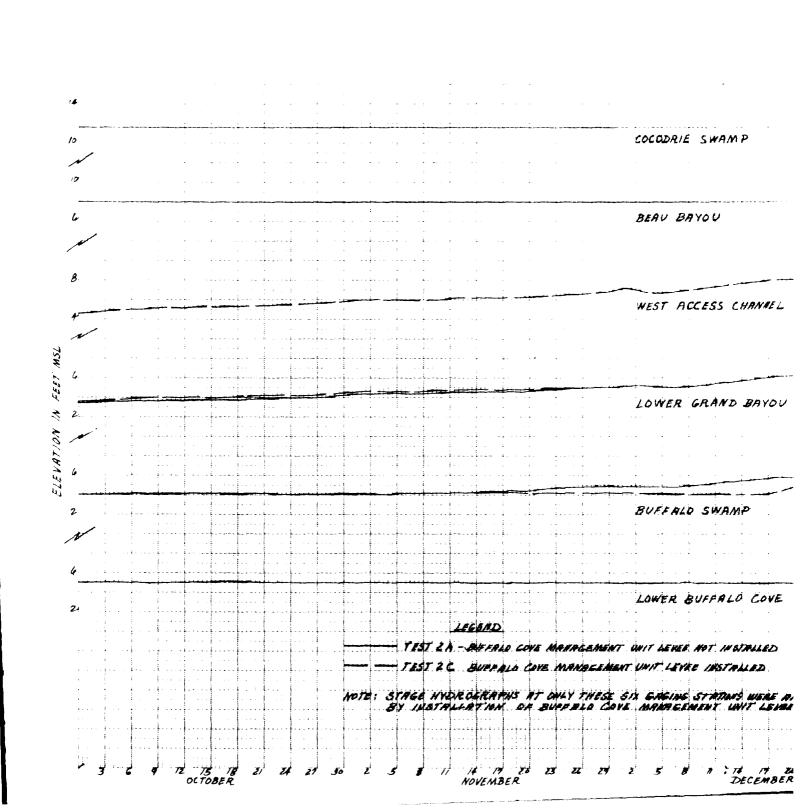


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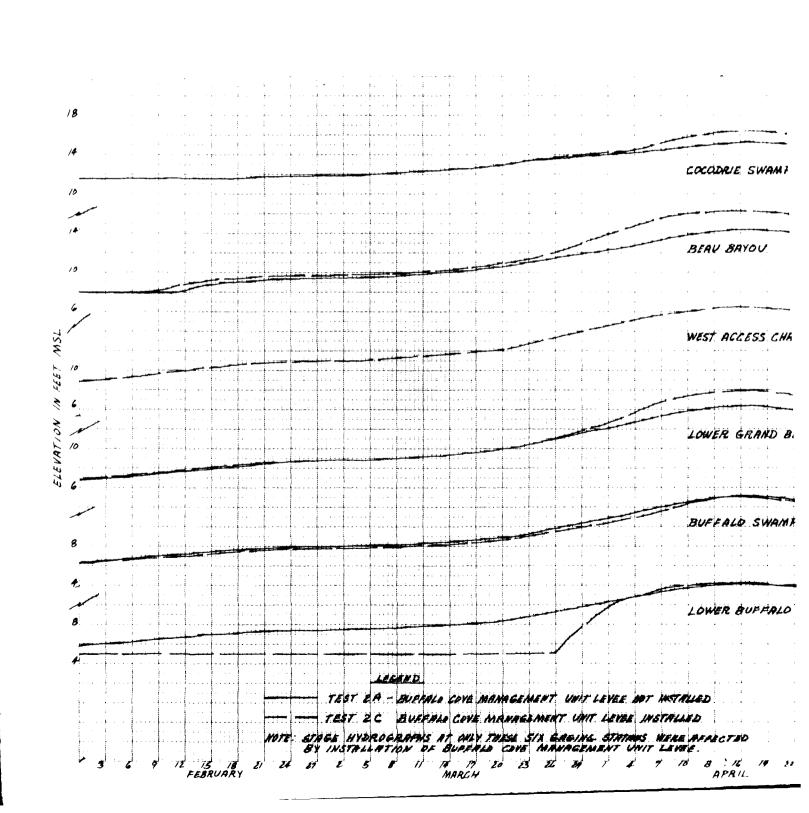


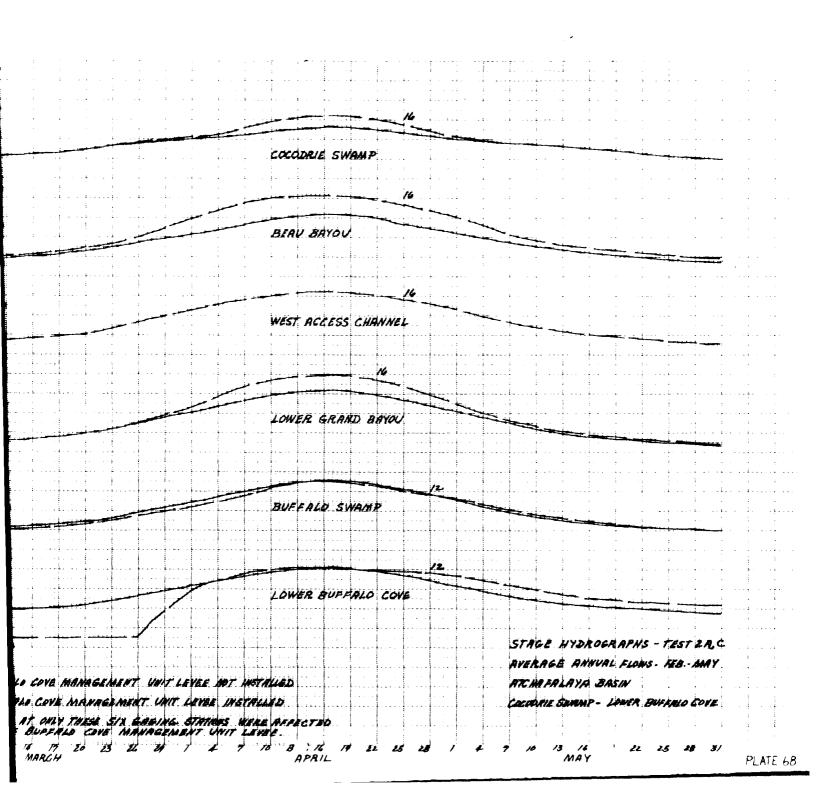
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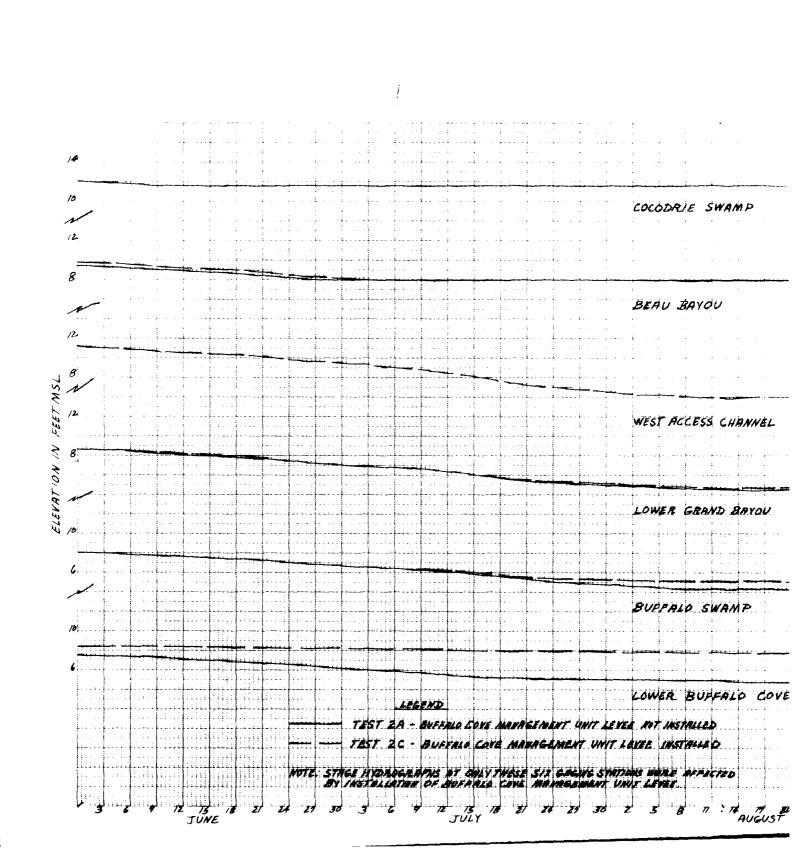
PLATE 66



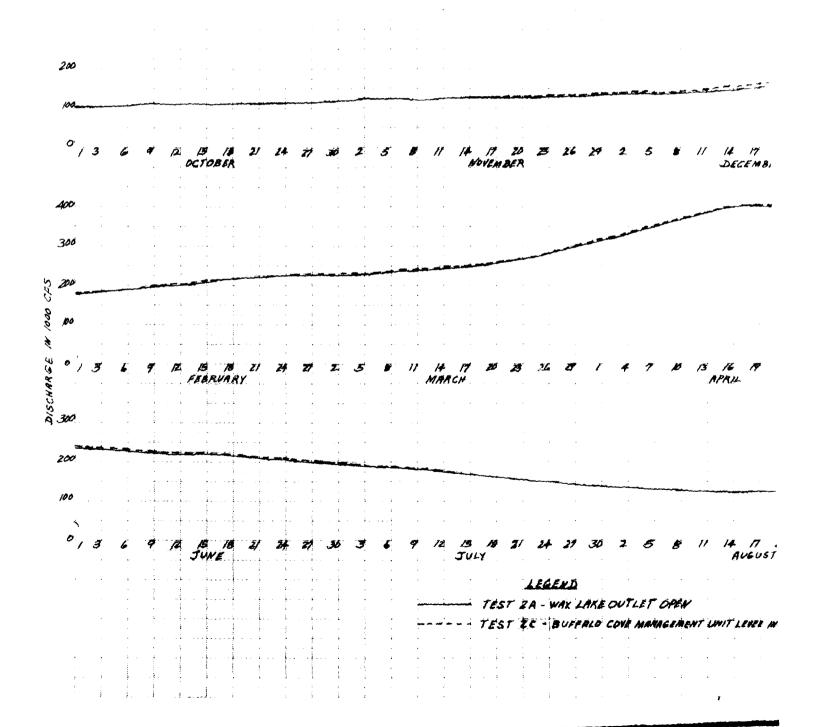
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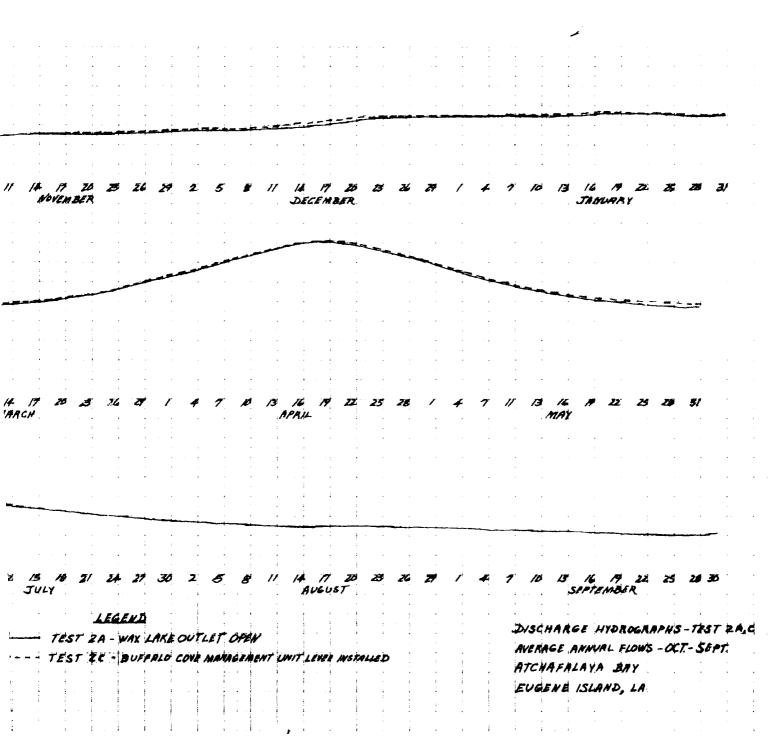


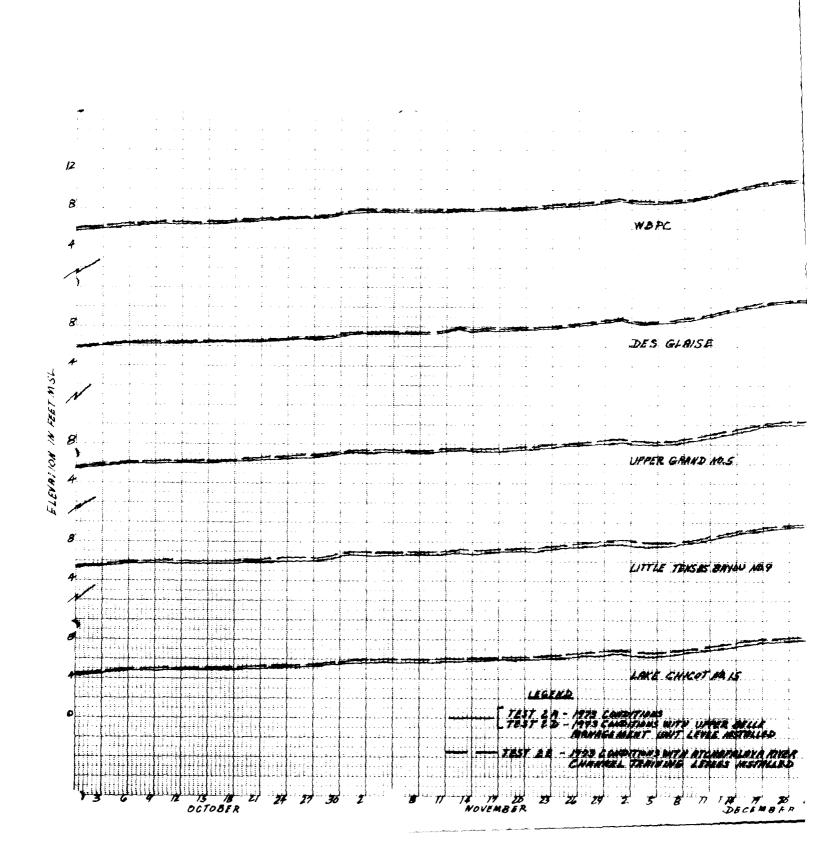


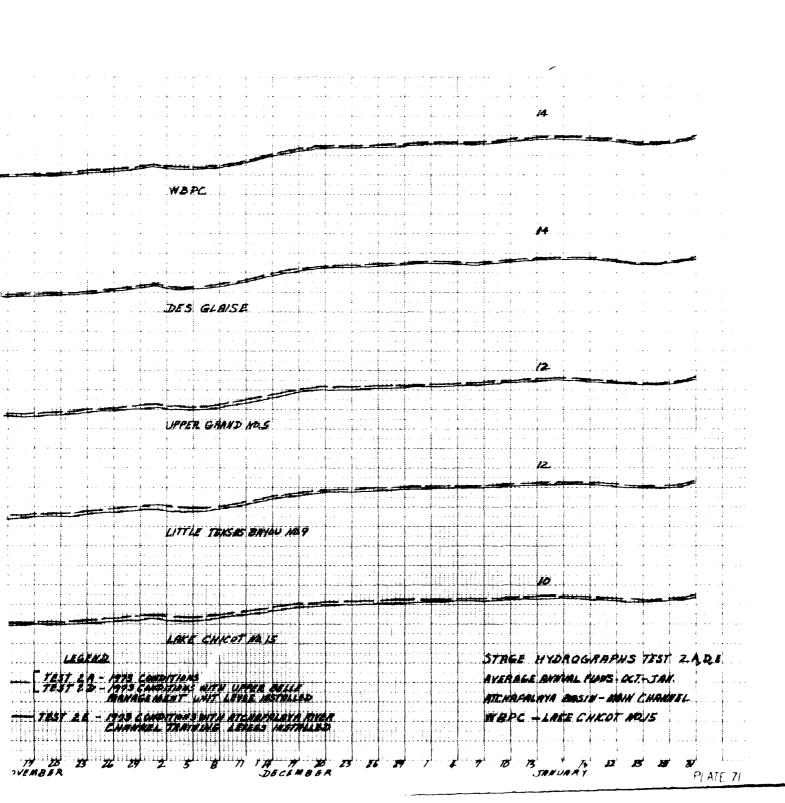


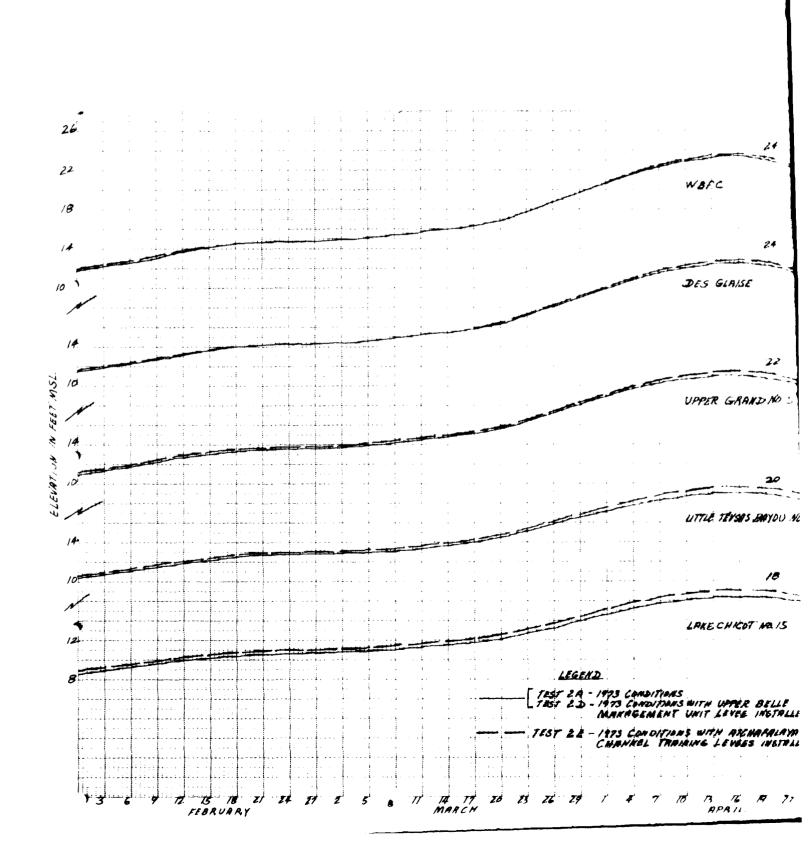
COCODRIE SWAMP BEAU BAYOU WEST ACCESS CHANNEL LOWER GRAND BAYOU BUPPALO SWAMP LOWER BUFFALO COVE O COVE MANAGEMENT UNIT LEVER NOT INSTALLED STAGE HYDROGRAPHS -TEST 2 A.C. BLA COVE MENAGENERT UNIT LAVEE INSTALLED AVERAGE ANNUAL FLOWS + JUNE - SEPT. ATCHAPALAYA BASIK T COULY TWEST SIN GRAING STATIONS WERE APPACING PRINCIPLE COCOUNTE SWAMP - LOWER BUFFALO CONE 13 1 19 ZE ES 28 30 SEPTEMBER PLATE 69

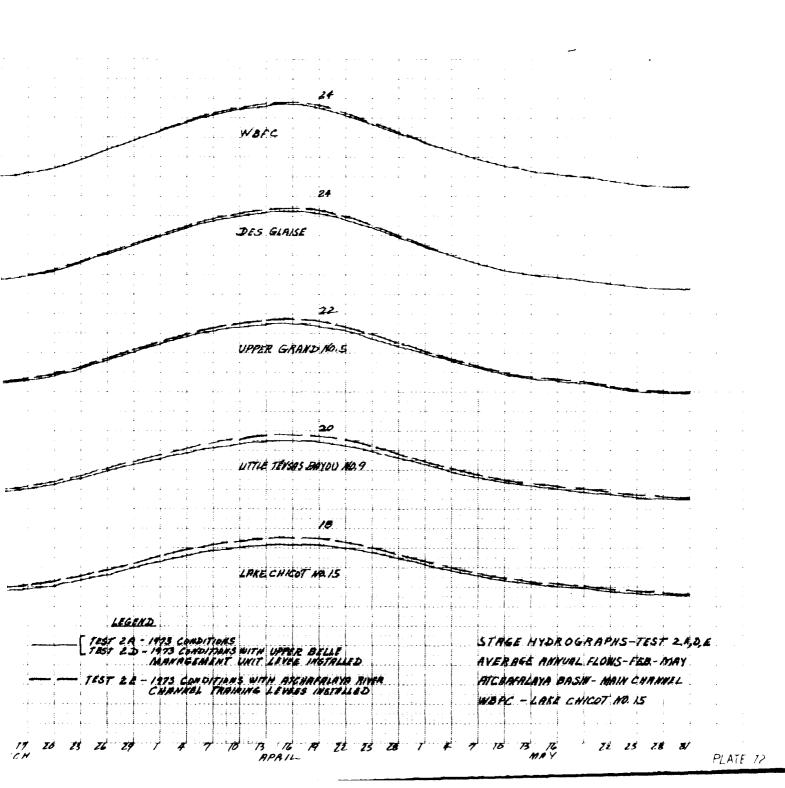


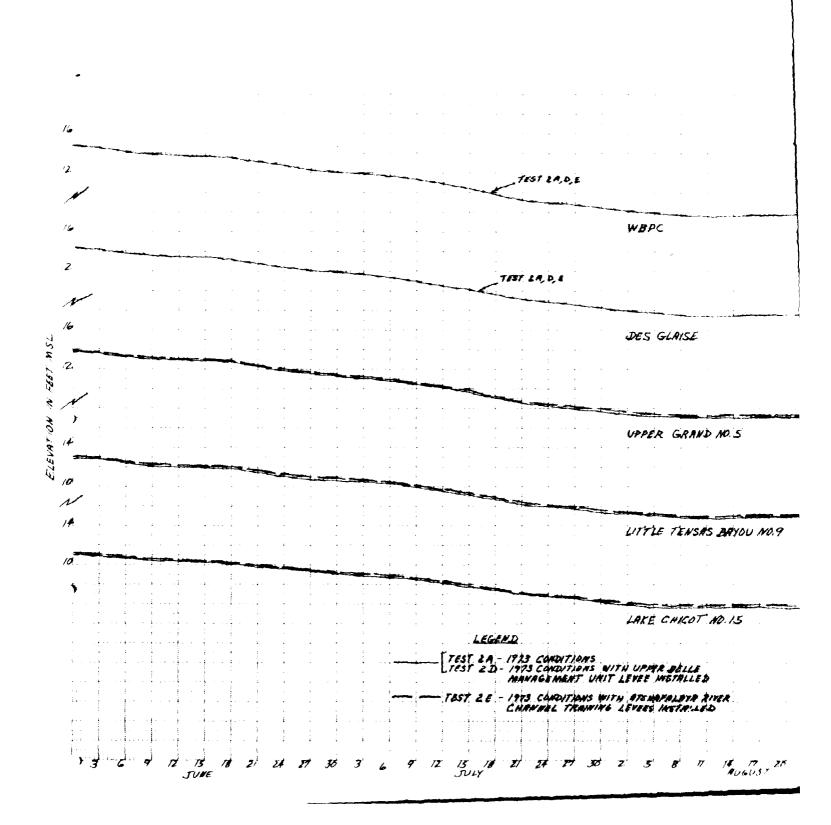




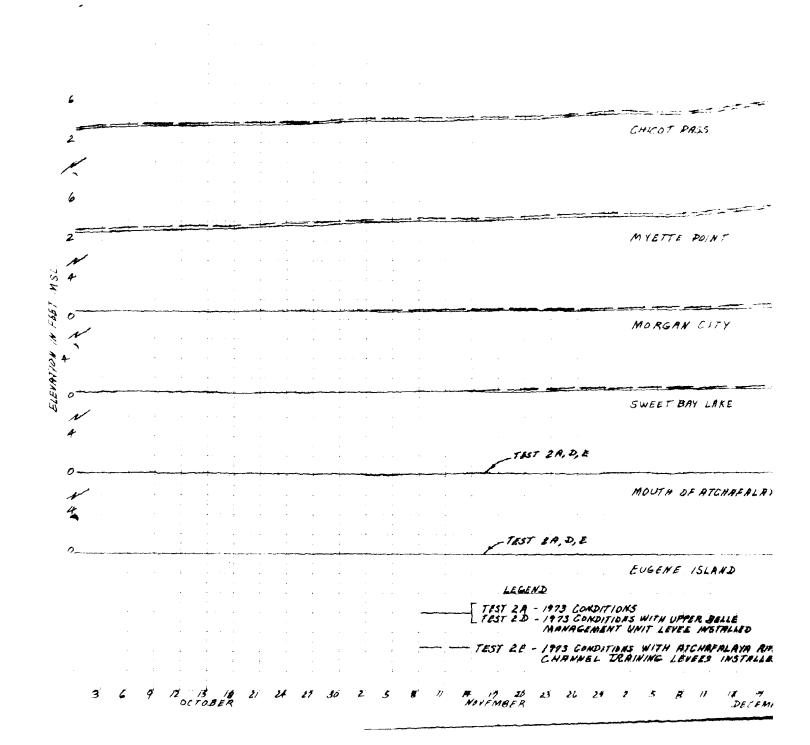








7857 2A,D,E WBPC 7857 2A, D, 8 DES GLAISE UPPER GRAND NO.5 LITTLE TENSAS BAYOU NO.9 LAKE CHICOT NO. 15 STAGE HYDROGRAPHS-TEST 2A, D.E. 1993 CONDITIONS WITH UPPER BELLE MANAGEMENT UNIT LEVER METALLED AVERAGE ANNUAL FLOWS - JUNE-SEPT. 2 E - 1973 CONDITIONS WITH ATSWATELAND RIVER CHANNEL TRAINING LEVES INSTALLED ATCHAPALAYA BASIN - MAIN CHANNEL WBPC - LAKE CHICOT NO.15 PLAT 73



8 CHICOT PASS MYETTE POINT MORGAN CITY SWEET BAY LAKE TAST 2A, D, E MOUTH OF ATCHAFALAYA TEST 2A, D, E EUGENE ISLAND LEGEND . STAGE HYDROGRAPHS-TEST ZA,D,E

DECEMBER

AVERAGE ANNUAL FLOWS - OCT. JAN. ATCHAFALAYA BASIN-MAIN CHANNEL

CHROT PASS- EUGENE ISLAND

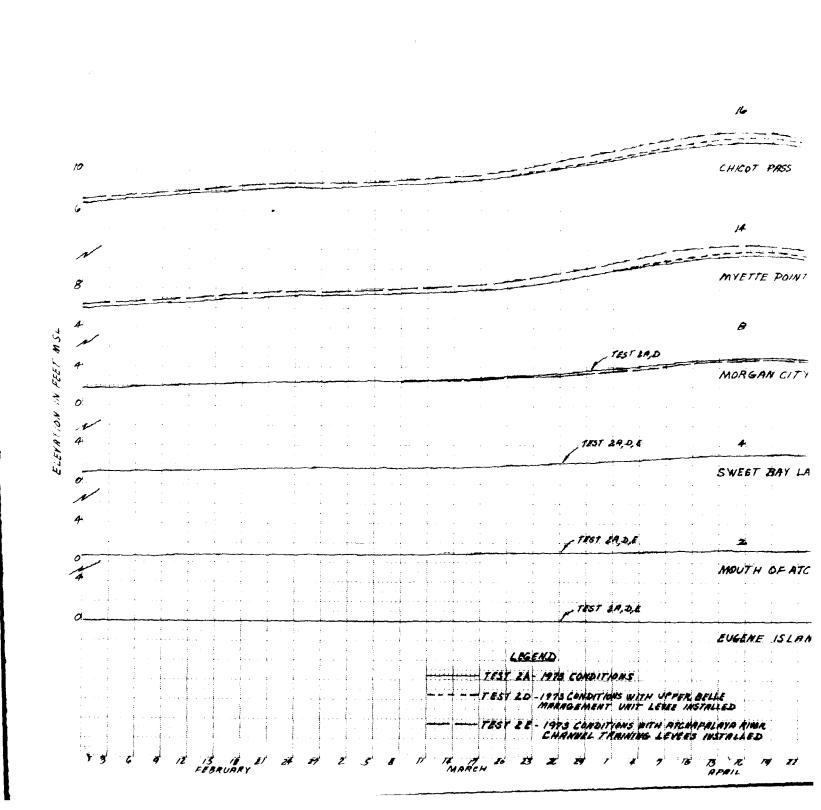
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TEST 2A - 1973 CONDITIONS TEST 2D - 1973 GONDITIONS WITH UPPER BELLE MANNGEMENT UNIT LEVEE INSTALLED

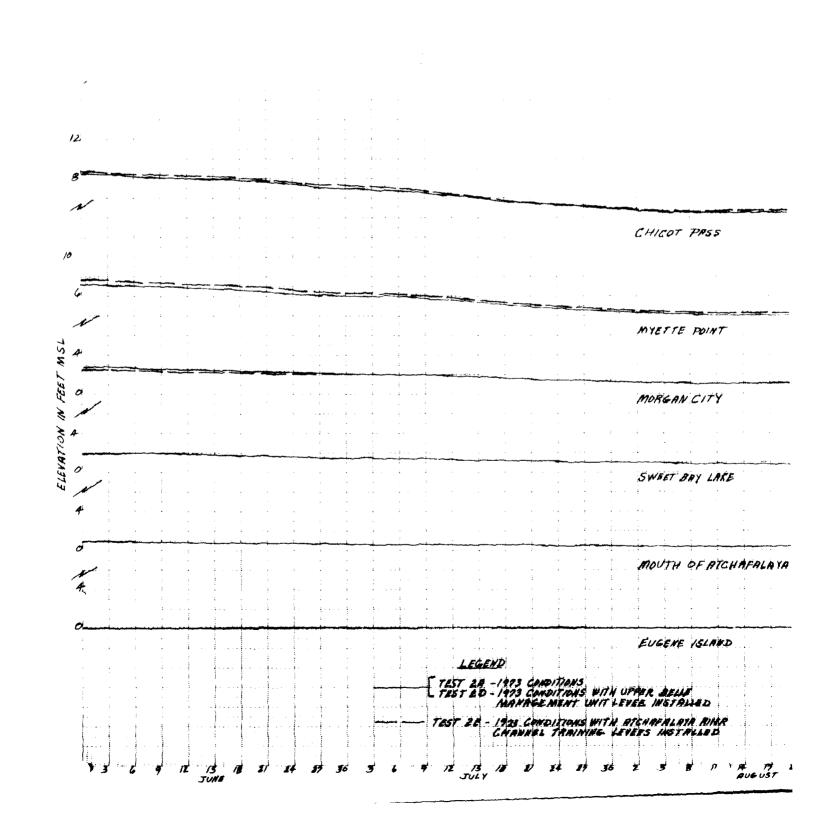
NOVEMBER

TEST 2E - 1993 GONDITIONS WITH ATCHAPALAYA RIVER CHANNEL TRAINING LEVERS INSTALLED

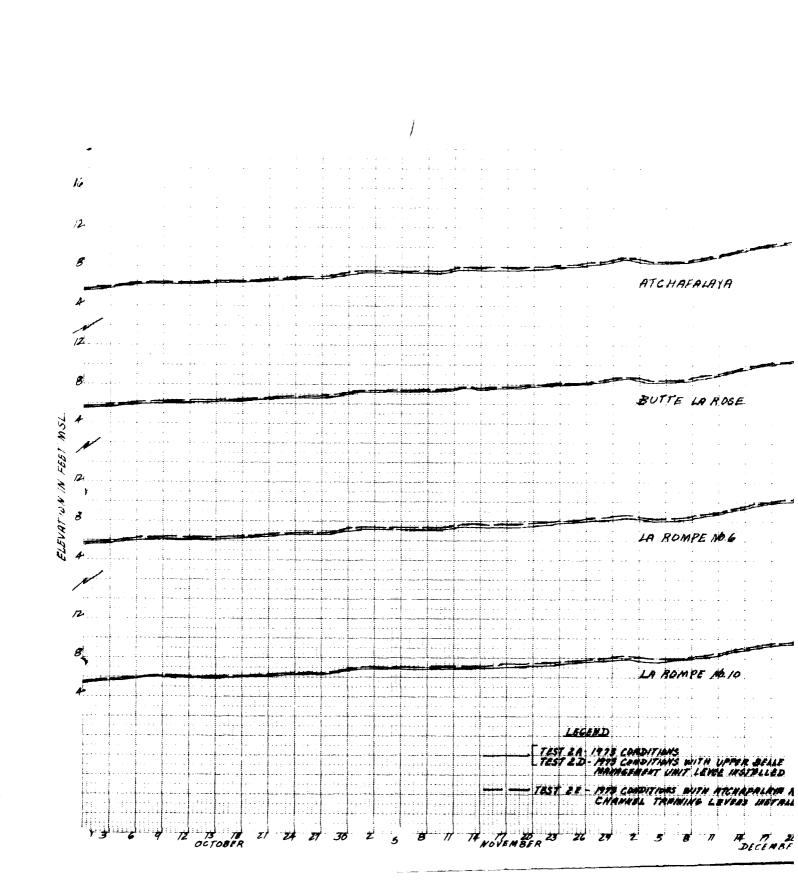


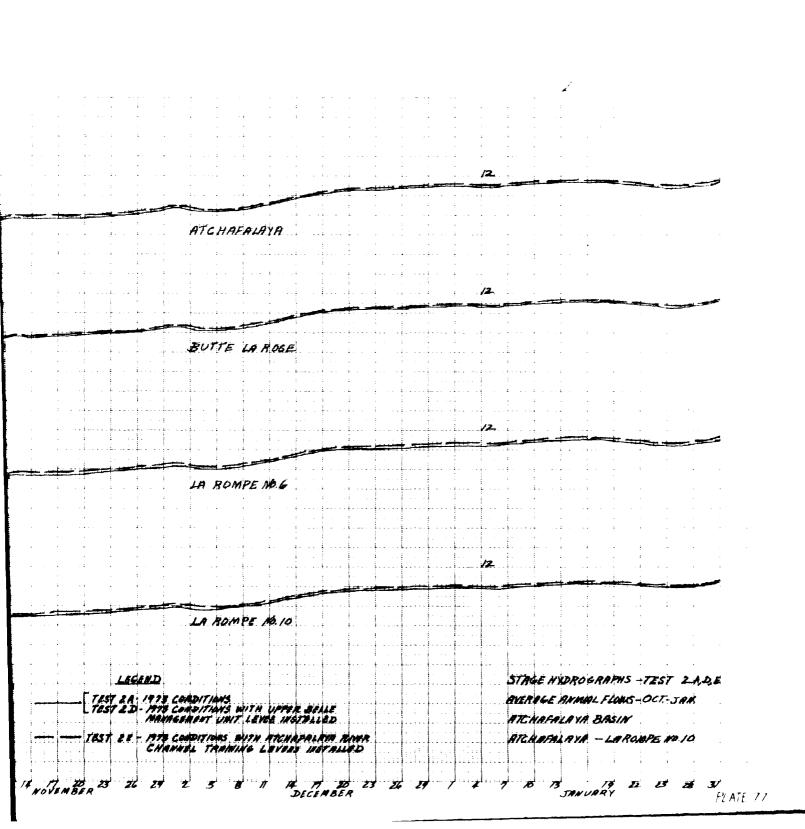
CHICOT PASS MYETTE POINT MORGAN CITY 1257 24,0,6 SWEET BAY LAKE 1861 2A,D,E MOUTH OF ATCHREALAYA TEST BA,D,E EUGENE ISLAND LEGEND STAGE HYDROGRAPUS - TEST 2A.B.E. TEST ZA- 1978 CONDITIONS AVERAGE ANNUAL FLOWS- FEB - MAY -1975 CONDITIONS WITH VETER BELLE MARGEMENT UNIT LENS INSTALLED ATCHREALAYA BASIN - MAIN CHANNEL CHICOT PASS - EUGENE ISLAND TEST ZE-1993 CONDITIONS WITH ATCHOPALOYA RINGR CHANNEL TRAINING LEVERS INSTALLED

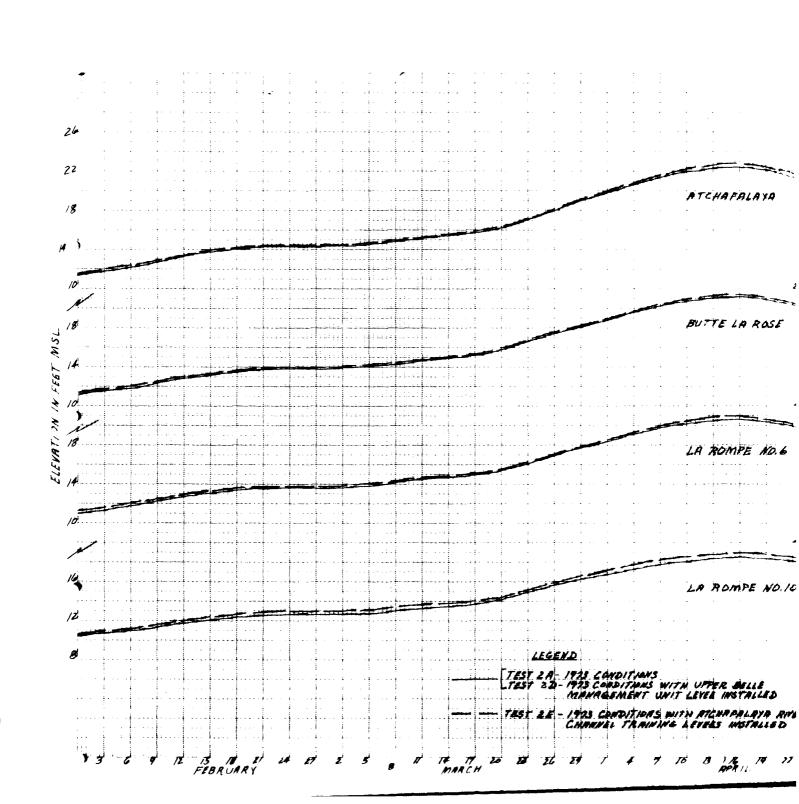
PLATE 75

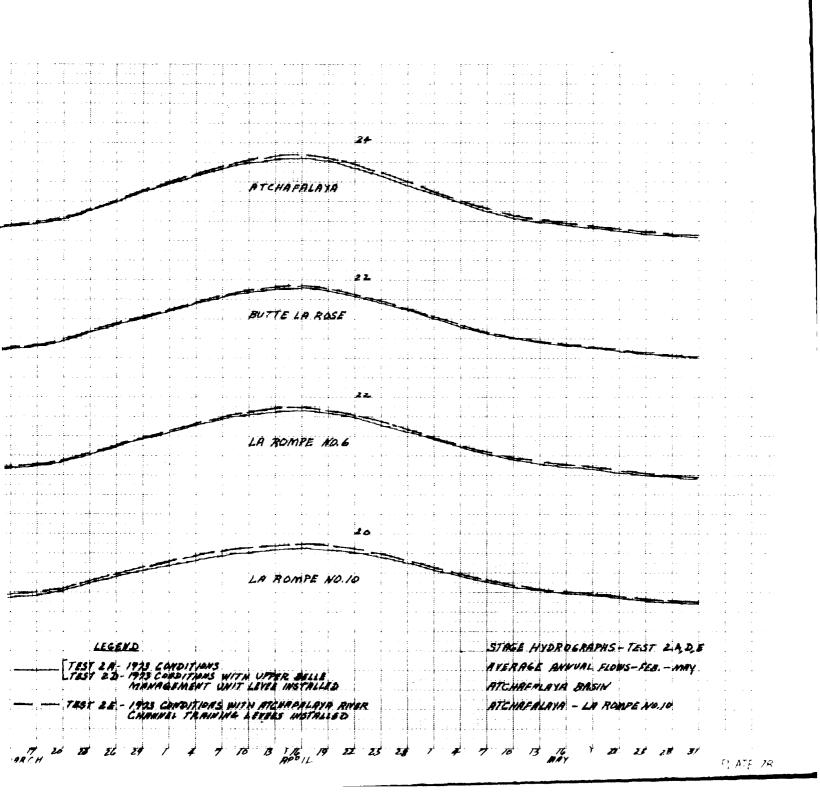


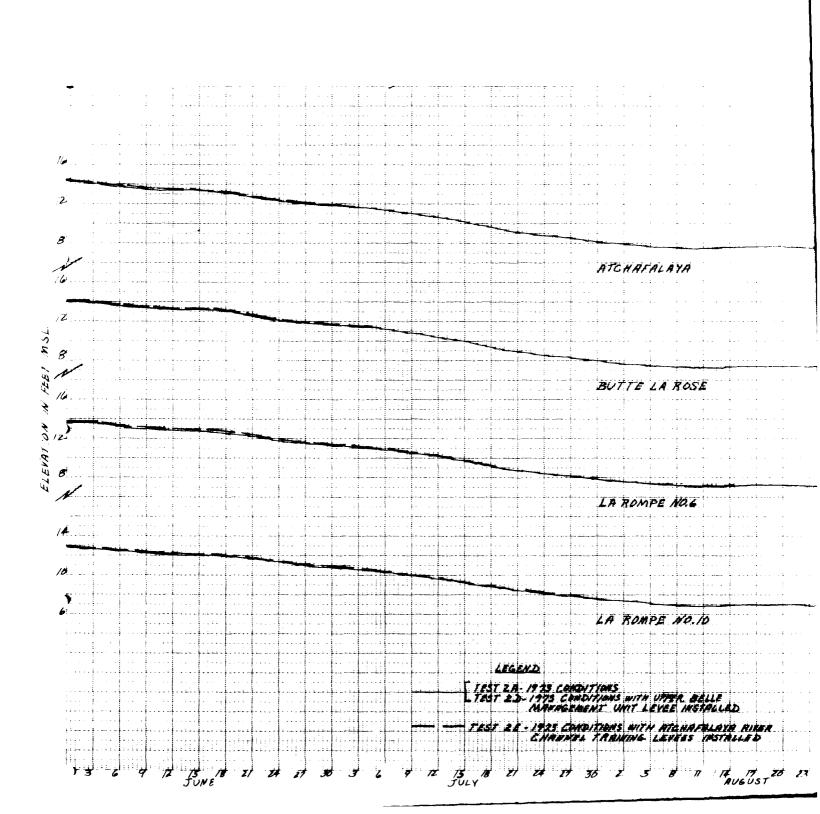
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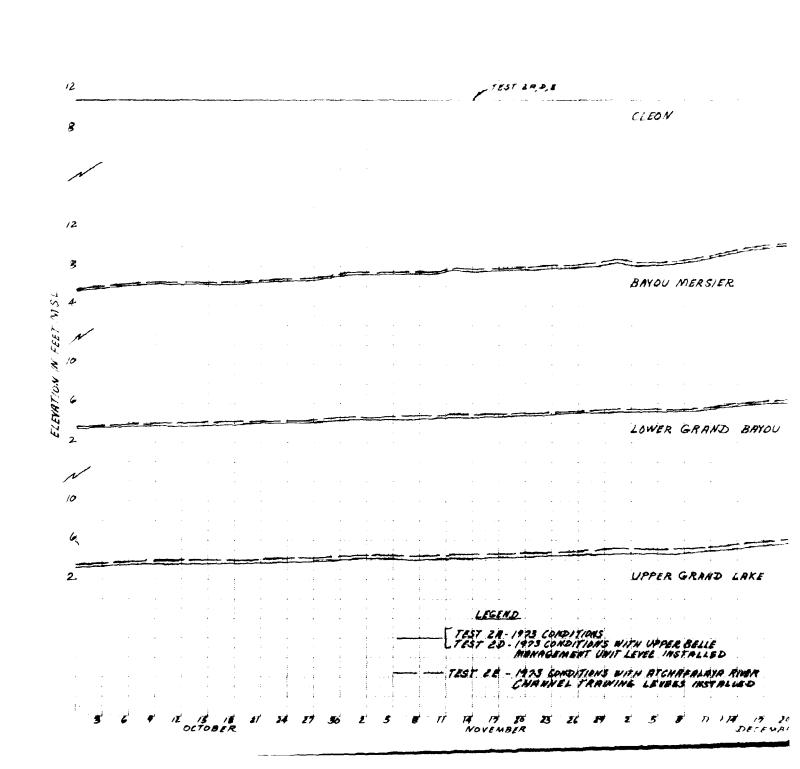








ATCHAFALAYA BUTTE LA ROSE LA ROMPE NO.6 LA ROMPE NO.10 STAGE HYDROGRAPHS - TEST 2 A.D.C AMERICE PHYLIOL FLOWS JUNE SEPT. 1973 CONDITIONS WITH UPPER BELLE MANAGEMENT UNIT LEVEE HETAGLED ATCHOPALAYA - LA ROMPE NO.10 PLATE 79



TEST BADA

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BAYOU MERSIER

LOWER GRAND BAYOU

UPPER GRAND LAKE

LEGEND

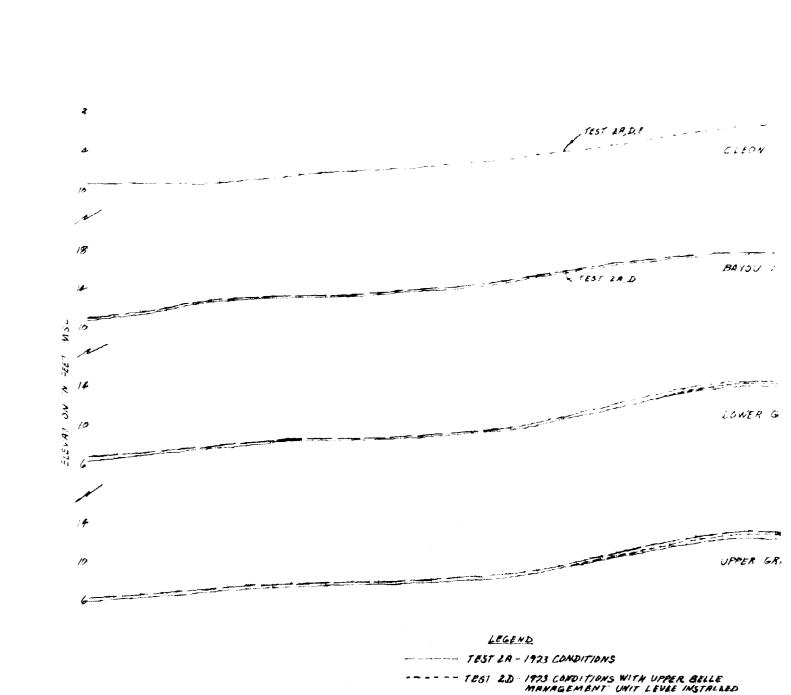
TEST 29-1973 CONDITIONS TEST 20-1973 CONDITIONS WITH UPPER BELLE MENAGEMENT UNIT LEVEZ INSTALLED

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AVERAGE ANNUAL FLOWS - OCT. - JAN
WEST ATCHAFALAYA BASIN
CLEON - UPPER GRAND LAKE

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AVERAGE ANNUAL FLOWS - FEB. MAI

WEST ATCHAFALATA BASIN CLEON - UPPER GRAND LAKE TO WER GRAND BATOU

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UPPER GRAND LAKE

LEGEND

TEST 2A 1973 CONDITIONS
TEST 2D -1973 CONDITIONS WITH UPPER BELLE
MANAGEMENT WILL LEVEE INSTALLED

--- TBST 2E 1993 CONDITIONS WITH ATCHARALAYA AIVER
CHANNEL TRAINING LEVEES INSTALLED

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LOWER GRAND BAYOU

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UPPER GRAND LAKE

LEGEND

TEST 2A-1973 CONDITIONS TEST 2D-1973 CONDITIONS WITH UPPER BELLE MANAGEMENT UNIT LEVEE INSTALLED

TEST 2E - 1973 CONDITIONS WITH ATCHAPALAYA RIVER CHANNEL TRAINING LEVEES INSTALLED STAGE HYDROGRAPHS-TEST 2A,D,E AVERAGE ANNVAL PLOWS-JUNE-SEPT. WEST ATCHAPALAYA BASIN CLEON-UPPER GRAND LAKE

CHARENTON

CHARENTON

SIA MILE LAKE

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WAX LAKE OUTLET

LEGEND

NOVEMBER

[TEST 2A-1973 CONDITIONS |TEST 2D-1975CONDITIONS WITN UPPER BELLE | MANAGEMENT UNIT LEVEE INSTALLED

- TEST 2E - 1993 COMULTIONS WITH ATCHAFALAYA RIVER CHANNEL TRAINING LEVEES INSTALLED

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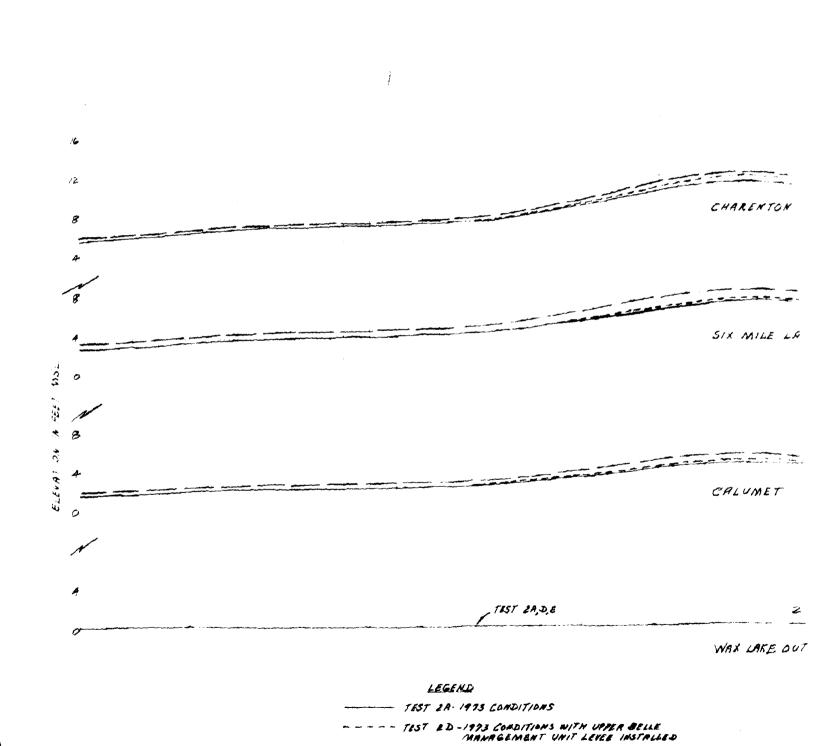
WAX LAKE OUTLET

LEGEND

TEST 2A-1923 CONDITIONS TEST 2D-1925 CONDITIONS WITH UPPER BELLE MANAGEMENT UNIT LEVER INSTALLED

- TEST 2E - 1923 COMPITIONS WITH ATCHAFALAYA MINAR CMANNEL TRAINING LEVEES INSTRALED STAGE HYDROGRAPHS - TEST 2A,D,E AVERAGE ANNUAL FLOWS- OCT.- JAN. WEST ATCHAPALAYA BASIN CHARENTON - WAX LAKE OUTLET

16 17 26 23 26 29 2' 5' 8' 11 14 17 26 23 26 29 1' 4' 7' 18 13 19 22 25 28 3/ NOVEMBER JANUARY PLATE 83



B 16 19 22 APRIL

MARCH SO ES EL 29

CHARENTON

SIX MILLE LAKE

CALUMET

TEST ZA,D,E

2

WAX LAKE OUTLET

END

1973 CONDITIONS

-1993 CORDITIONS WITH UPFER BELLE MANAGEMENT UNIT LEVEZ INSTALLED

- 1993 COMDITIONS WITH ATCHAFALATA RIVER CHANNEL TRAINING LEVEES INSTALLED STAGE HYDROGRAPHS - TEST 2.M.D.E AVERAGE ANNUAL FLOWS- FEB - MAY WEST ATCHAPALAYA BASIN CHARENTON - WAX LAKE OUTLET

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10 CHARENTON 751 435 SIX MILE LAKE E.EVAT OA CALUMET WAX LAKE OUTLET TEST ZA-1973 CONDITIONS TEST ZD-1973 CONDITIONS WITH UPPER BELLE MANAGEMENT UNIT LEVEE INSTALLED TEST 2E - 1978 COMDITIONS WITH ATCHAFALAYA RIVER CHANNEL TRAINING LEVERS INSTALLED

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WAX LAKE OUTLET

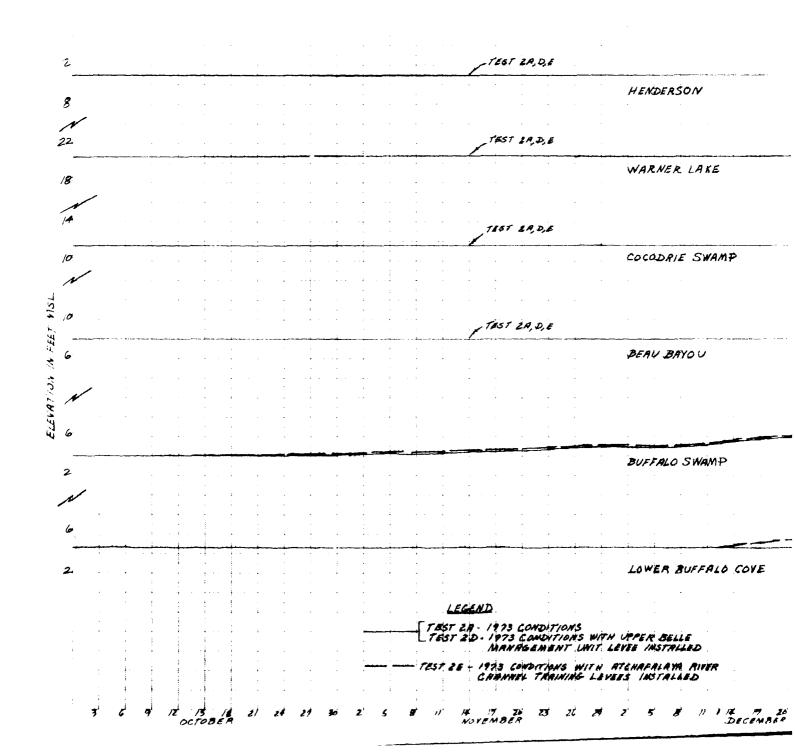
LEGEND

ST ZR-1913 CONDITIONS ST ZD-1913 CONDITIONS WITH UPPER BELLE MANAGEMENT UNIT LEVEE INSTALLED

26 - 1978 COMDITIONS WITH ATCHAPALINA RIVER CHAMMEL TRAINING LEVERS INSTALLED

STAGE HYDROGRAPHS TEST 2A, D.E. AVERAGE ANNUAL FLOWS - JUNE - SEPT. WEST ATEMPALAYA BASIN CHARENTON - WAX LAKE OUT LET

18 18 87 24 87 36 2' 5 8' 11 18 19 26 23 24 89 1 4 7 10 18 19 22 85 24 80 TULY SAPTAMBER 4 ALESS



TEST ZA,DE HENDERSON TEST 2A,D,E 22 WARNER LAKE TEST ZA,D,E COCODRIE SWAMP TAST ZA, D, E BEAU BAYOU BUFFALO SWAMP LOWER BUFFRLO COVE LEGEND STRGE HYDROGRAPHS -TEST ZA,QE

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AVERAGE ANNUAL FLOWS - OCT. JAN

HENDERSON- LOWER BUFFALO COVE

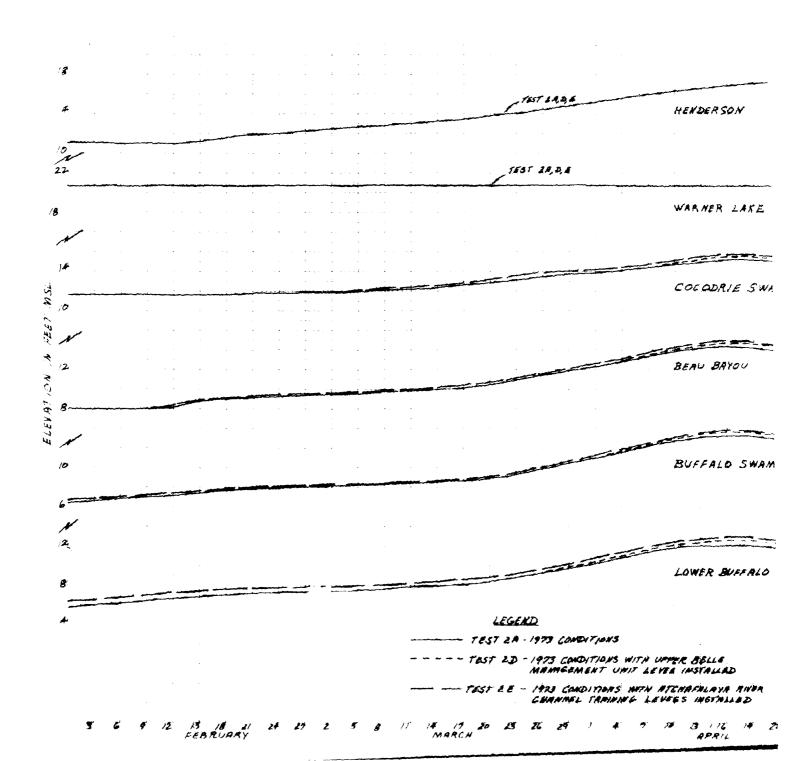
15 M ZE 25

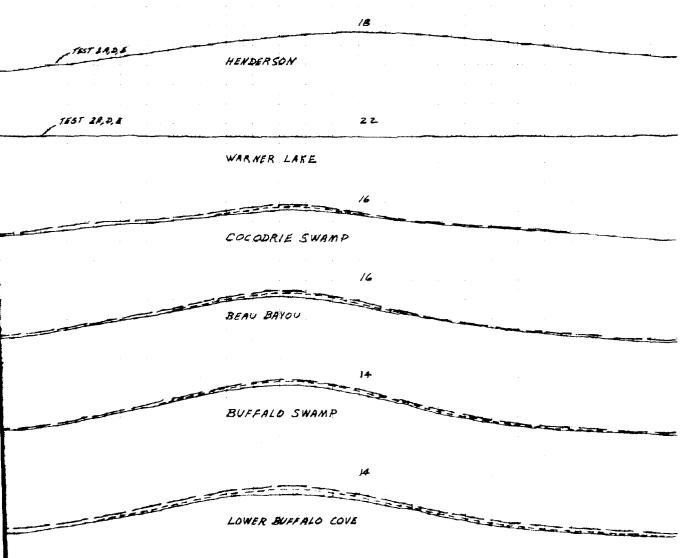
WEST ATCHAFALAYA BASIN-MANAGOMENT UNITS

PLATE 86

2A-1973 CONDITIONS 2D-1973 CONDITIONS WITH UPPER BELLE MANAGEMENT LIVIT LEVES INSTALLED

28 - 19 13 CONDITIONS WITH ATCHAPALAYA RIVER CHIMNIST TARINING LEVERS INSTALLED





LEGEND

TEST 2A - 1973 COMDITIONS

TEST 2D - 1973 CONDITIONS WITH UPPER BELLE MANNGEMENT UNIT LEVER INSTALLED

TEST 28 -- 1923 CONDITIONS WITH ATCHAPALAYA AIVER CHANNEL TRANSME LEVES INSTRULED STAGE NYDROGRAPHS - TEST ZA, DE

AVERAGE ANNUAL FLOWS - FEB. - MAY

WEST ATCHAFALAYA BACIN - MANAGEMENT UNITS

HENDERSON - LOWER BUFFALO COVE

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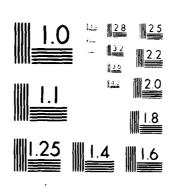
FEST ZA,D,E Z HENDERSON 24 TRIT EA,D, E WARNER LAKE TEST 2A,D,E 10 COCODR: E SWAMP BEAU BAYOU BUFFALO SWAME 10 DUET B COLO LEGEND TEST 2A-1973 CONDITIONS TEST 2D-1973 CONDITIONS WITH STORE BLOW MANAGEMENT ON LEVEL & TORE

TRST 2E - 1993 COMPTIONS WITH ME

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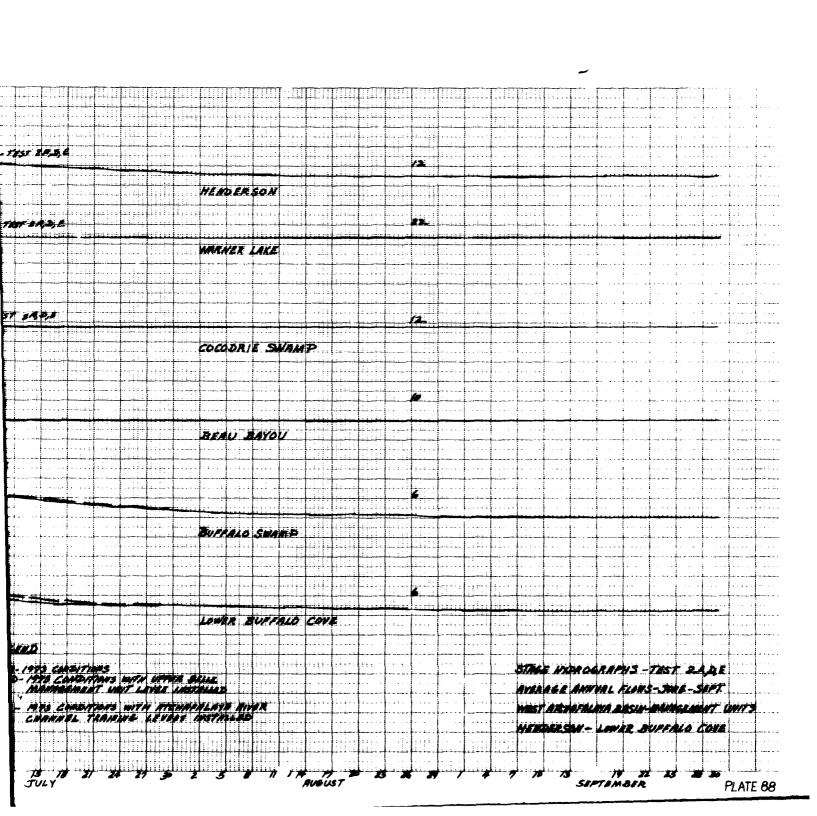
ARMY ENGINEER WATERWAYS EXPERIMENT STATION VICKSBURG MS F/6 13/2 EFFECTS OF CLOSING WAX LAKE OUTLET AND CONSTRUCTING MANAGEMENT --ETC(10) NOV 80 J E FOSTER, J Y ALLEN IAO-L-MMED-79-36 UNCLASSIFIED WES-MISS-8ASIN MODEL-31-8 NL BLANK

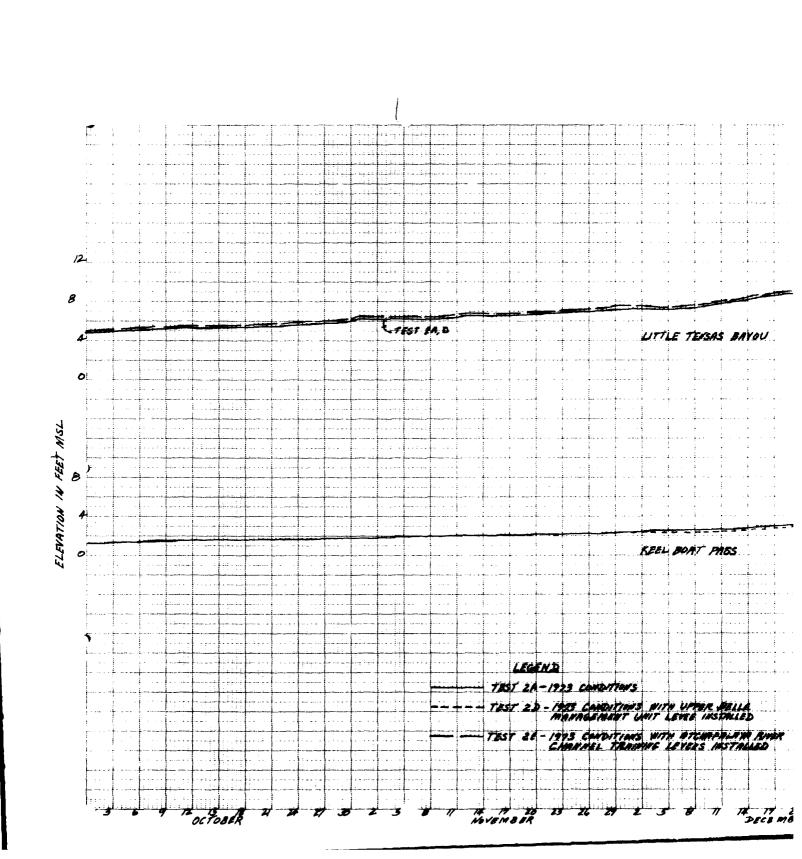
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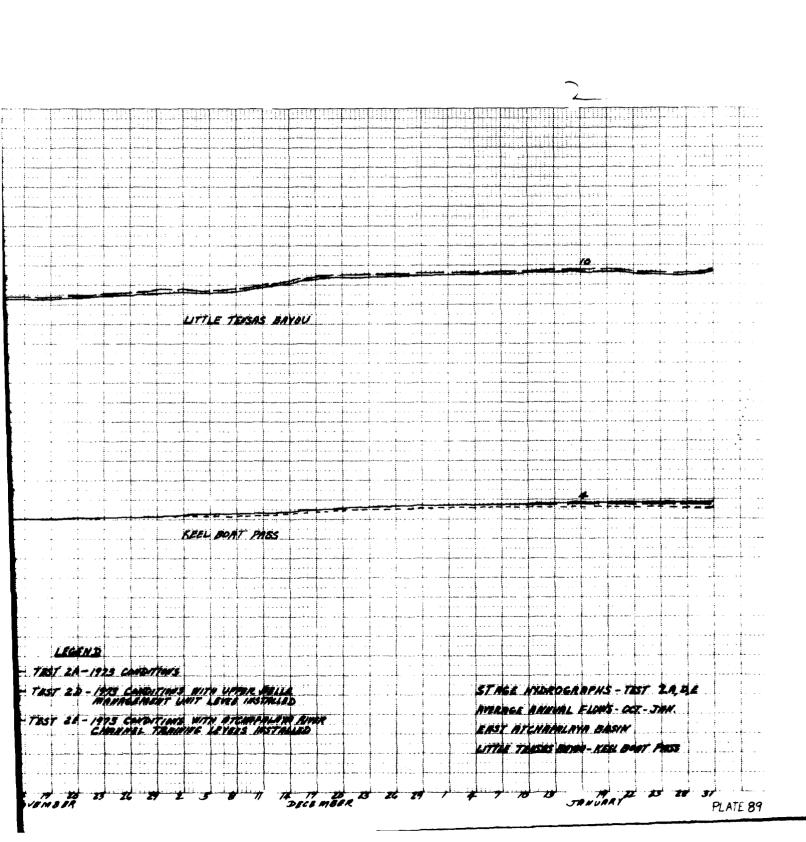


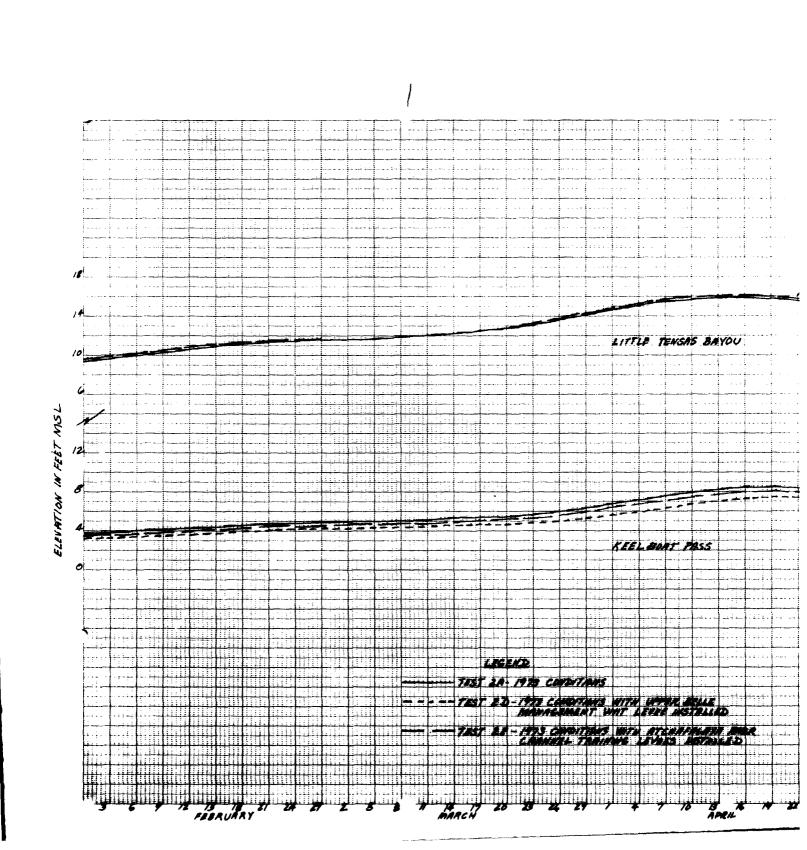
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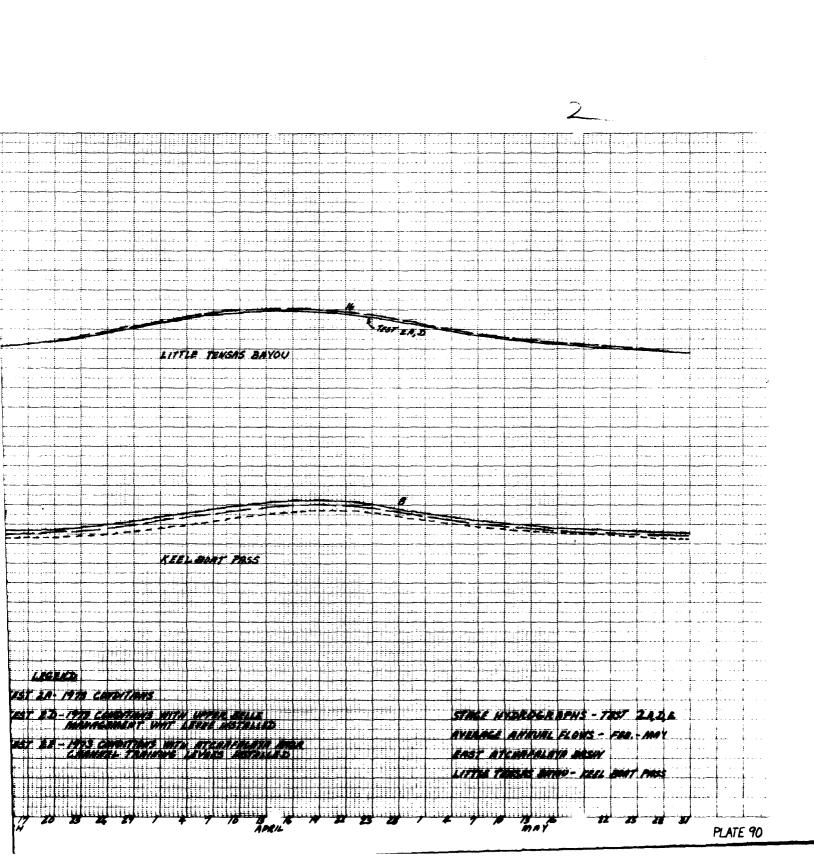
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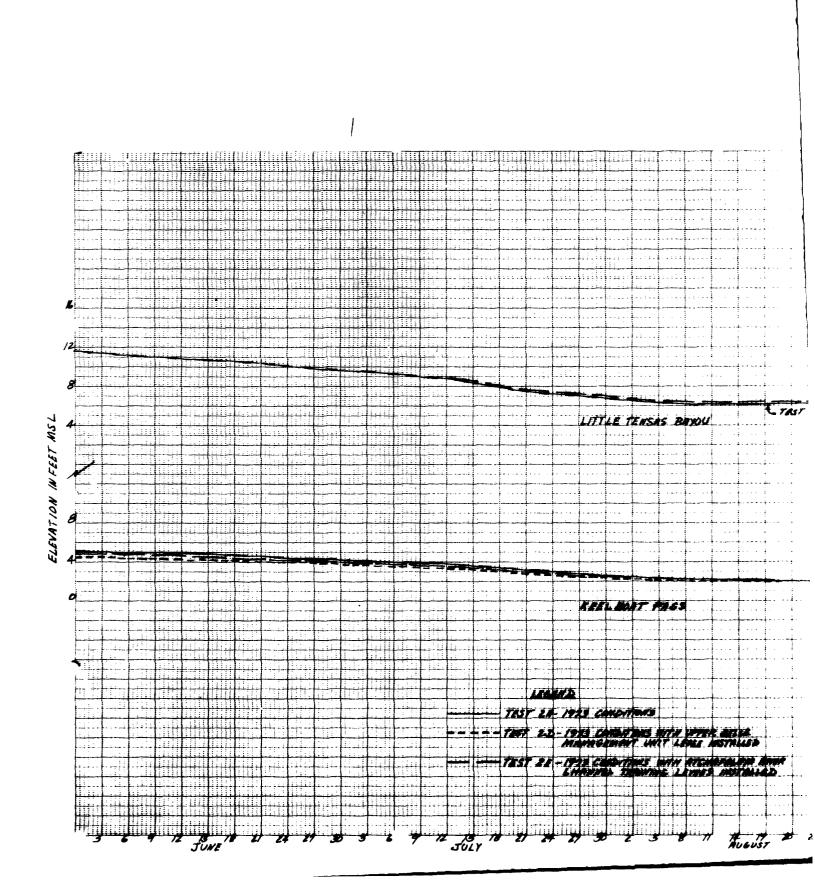


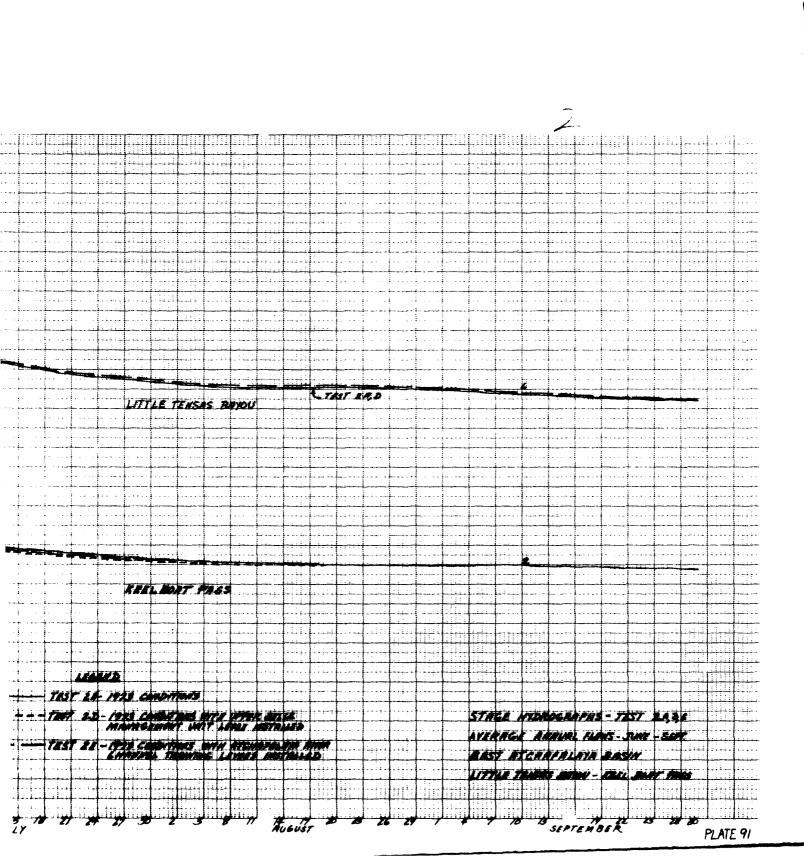


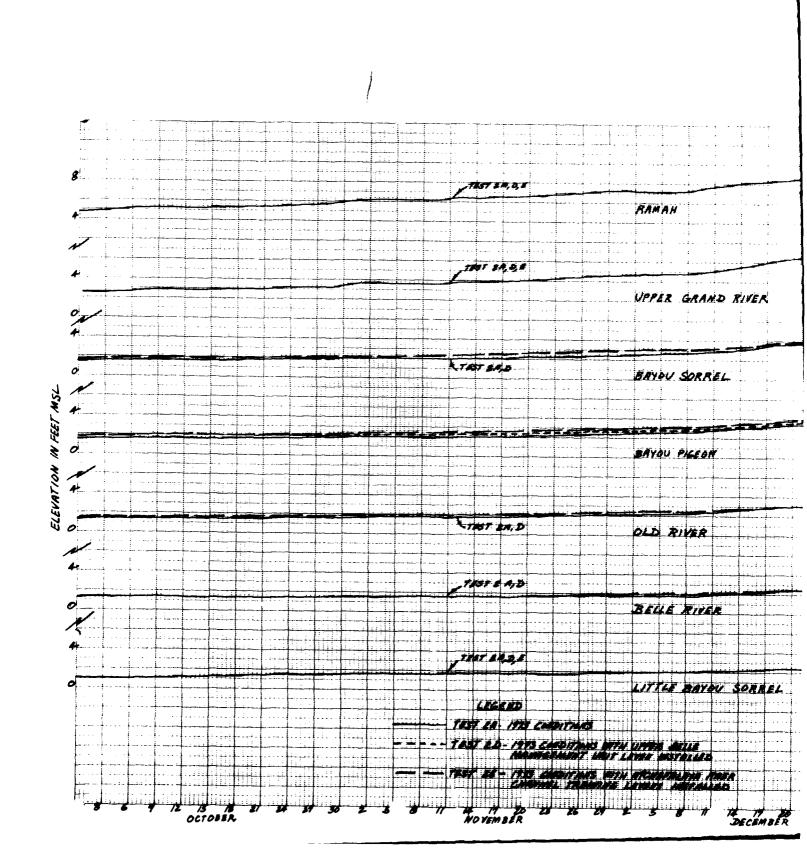




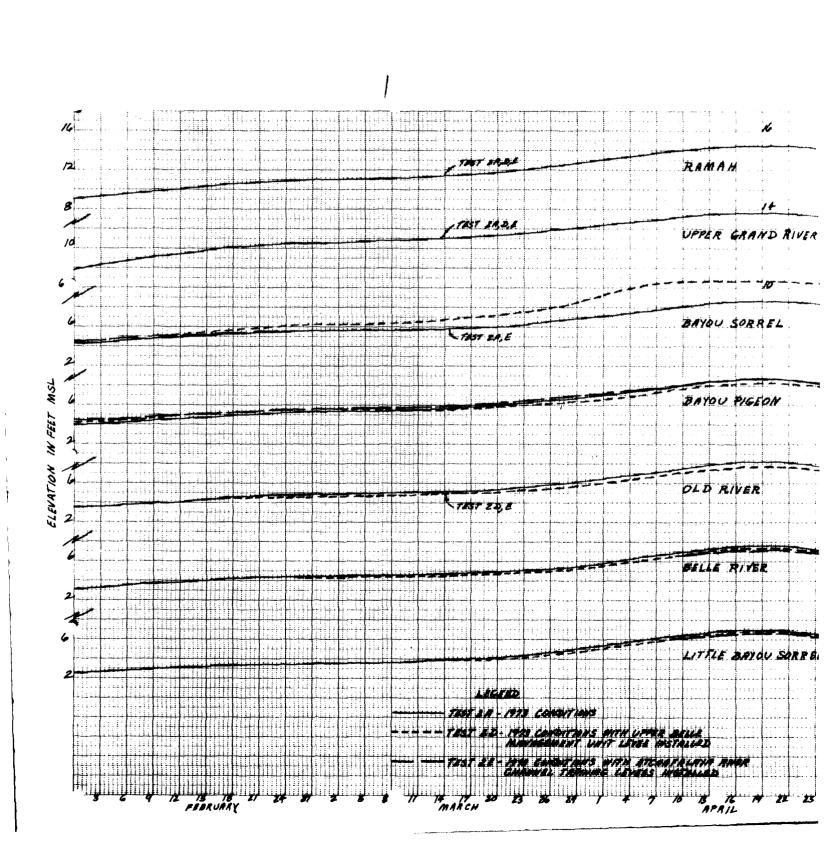


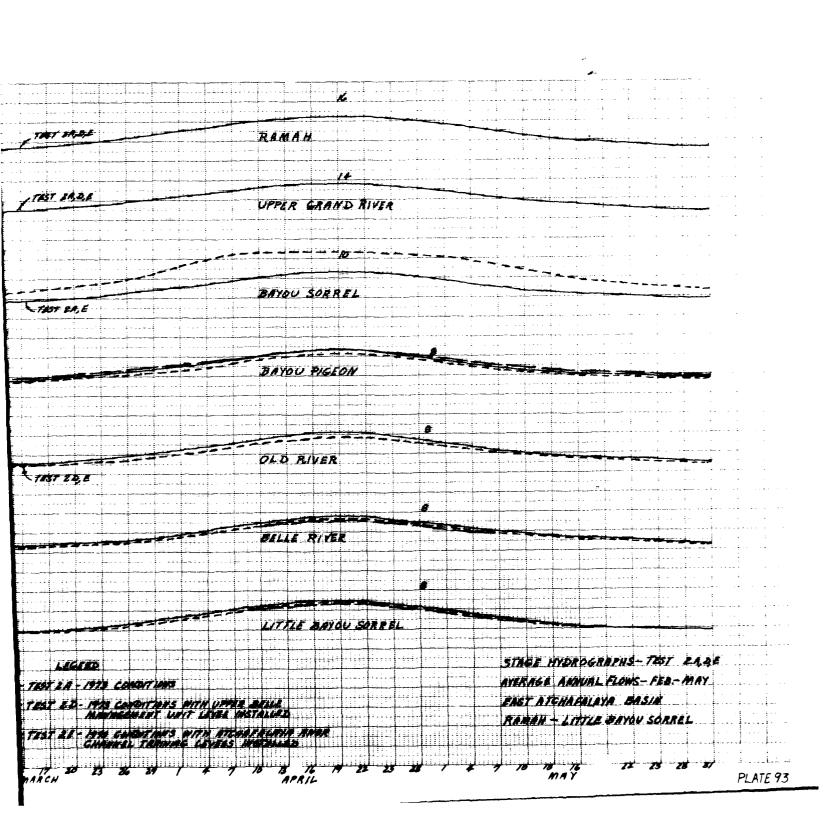


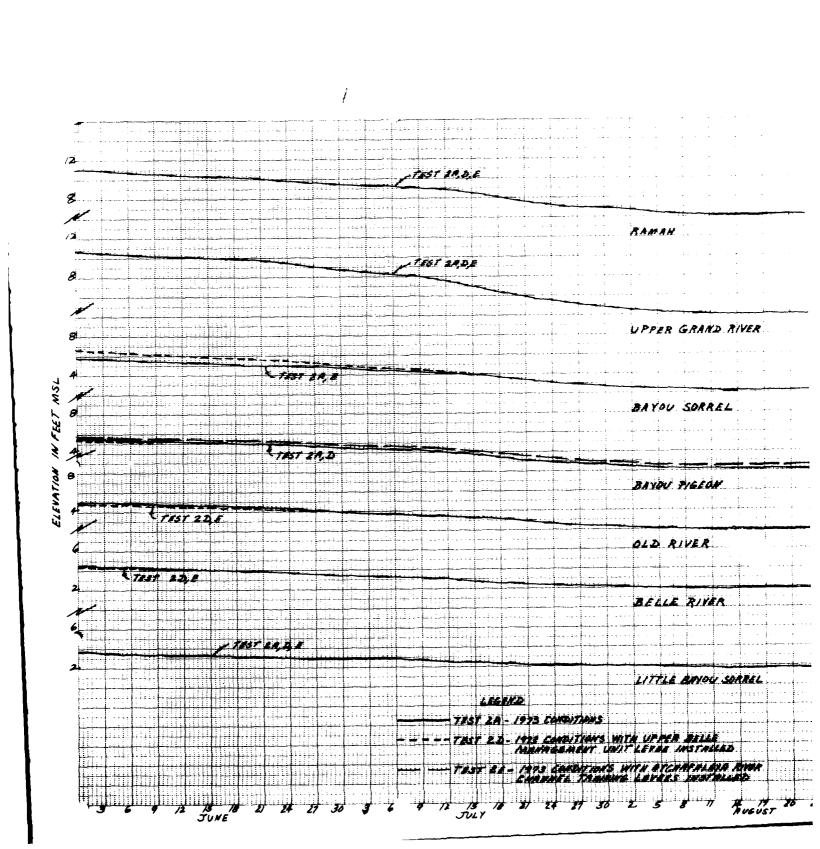


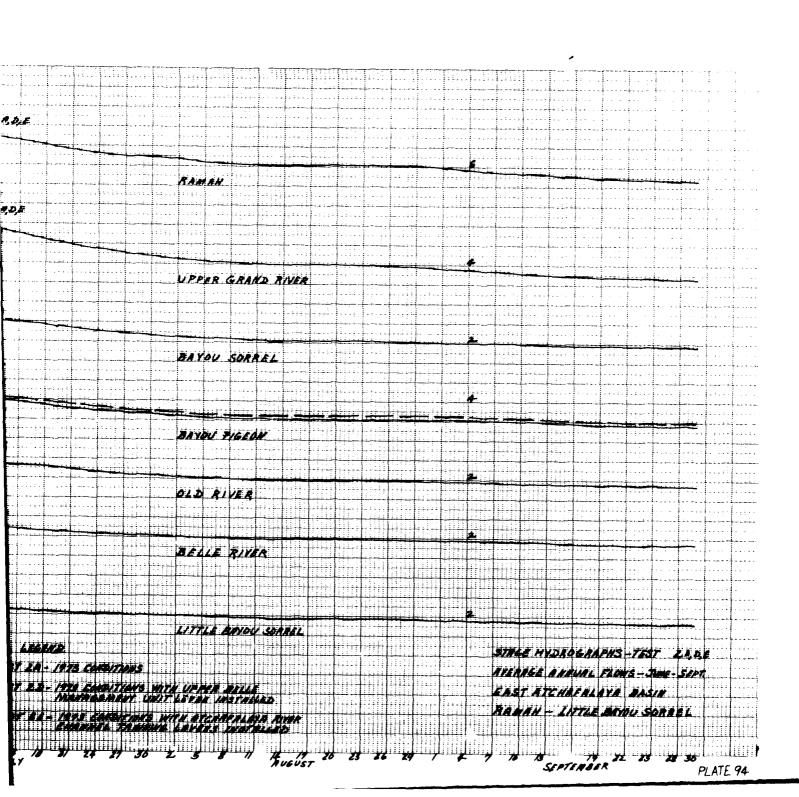


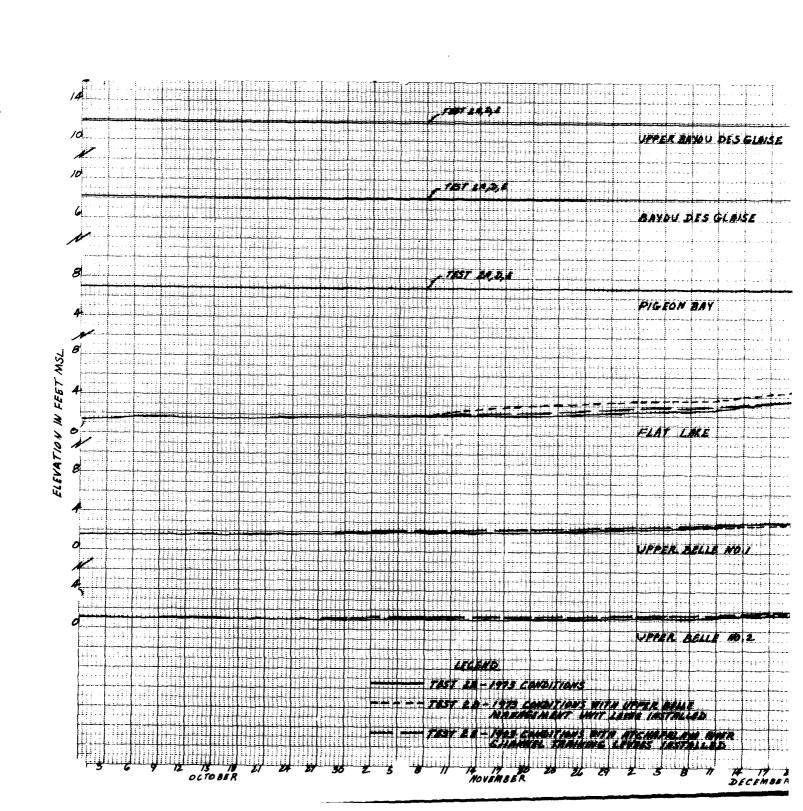
RAMAH 1857 SA, D. B VPPER GRAND RIVER TAST SAD BRYOU SORREL BAYOU PIGEON OLD RIVER LIGERD STAGE NYDROGRAPUS-TEST 244E EAST ATTHAKALAYA BASIN PLATE 92

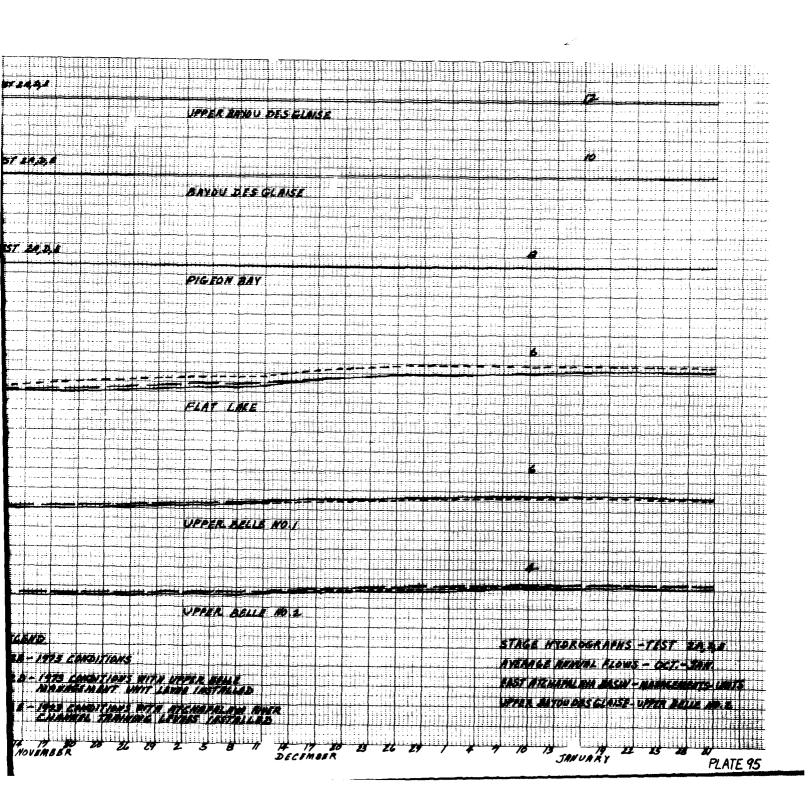


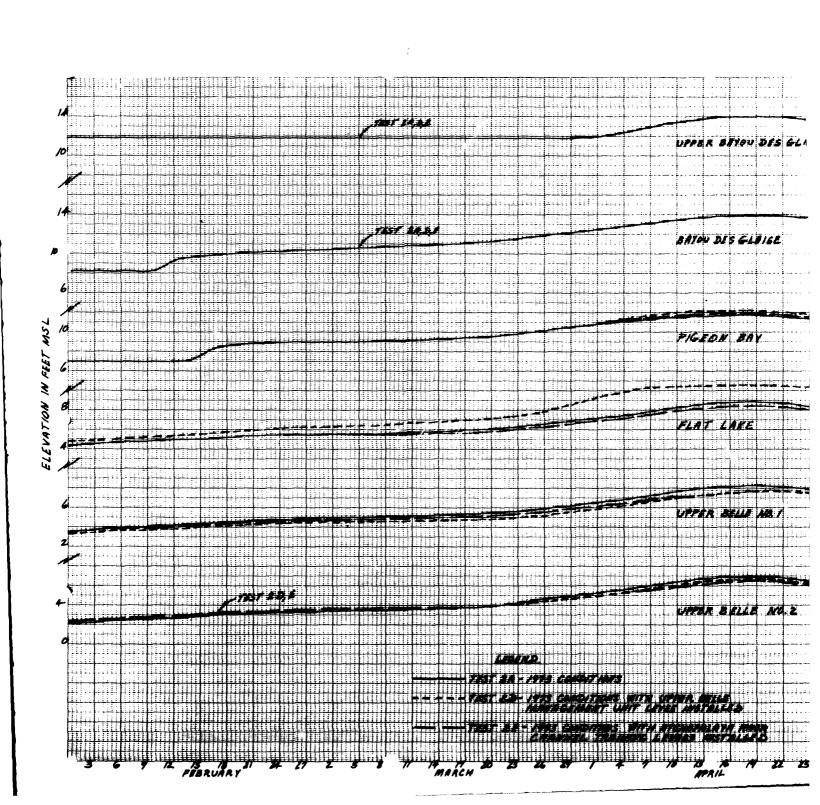


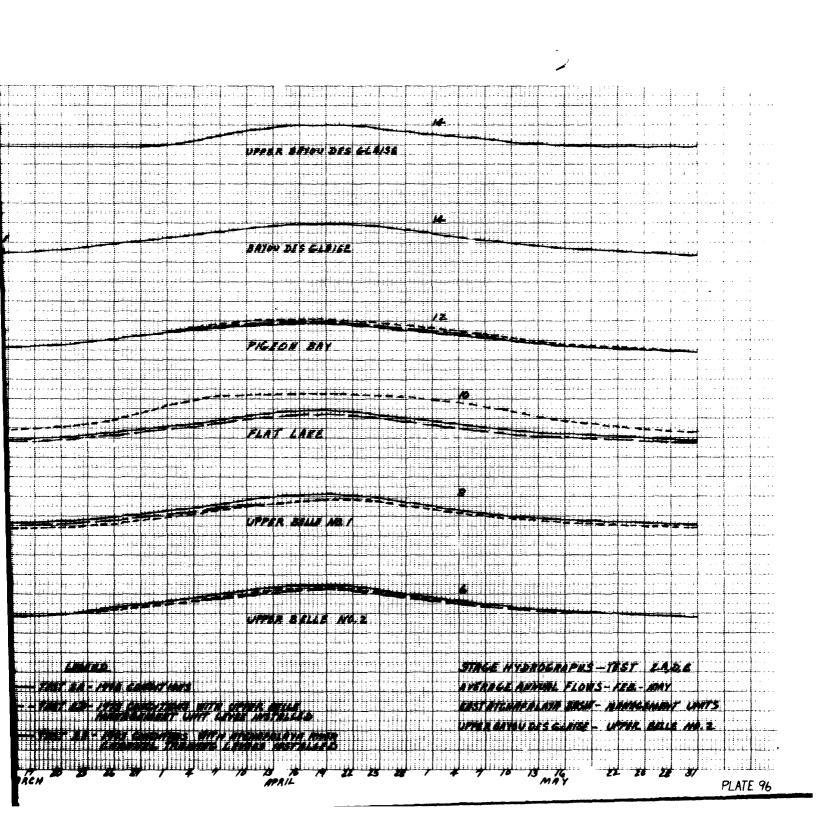


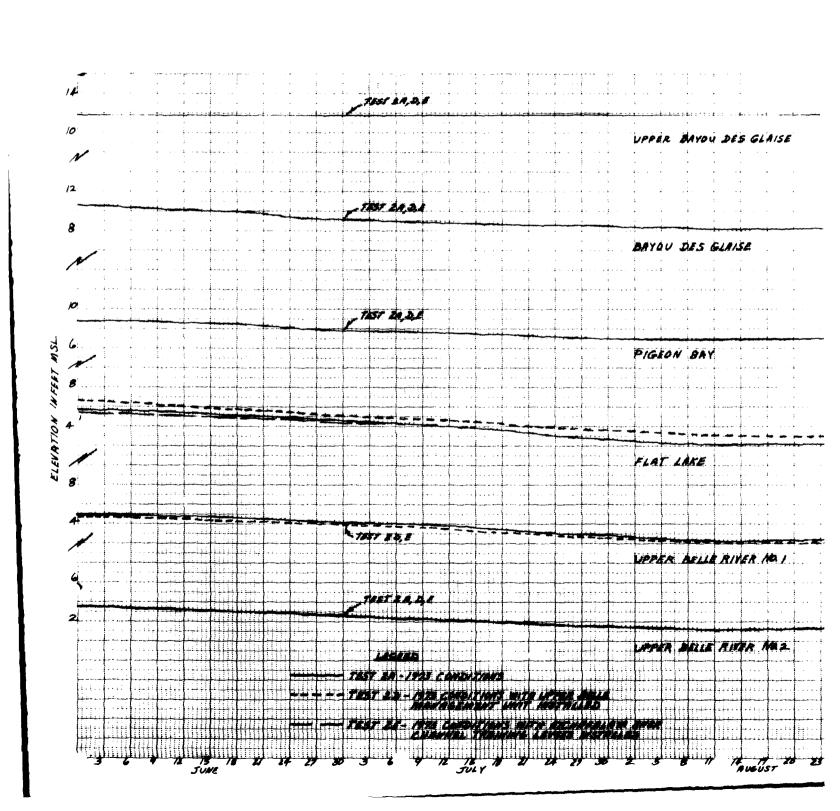


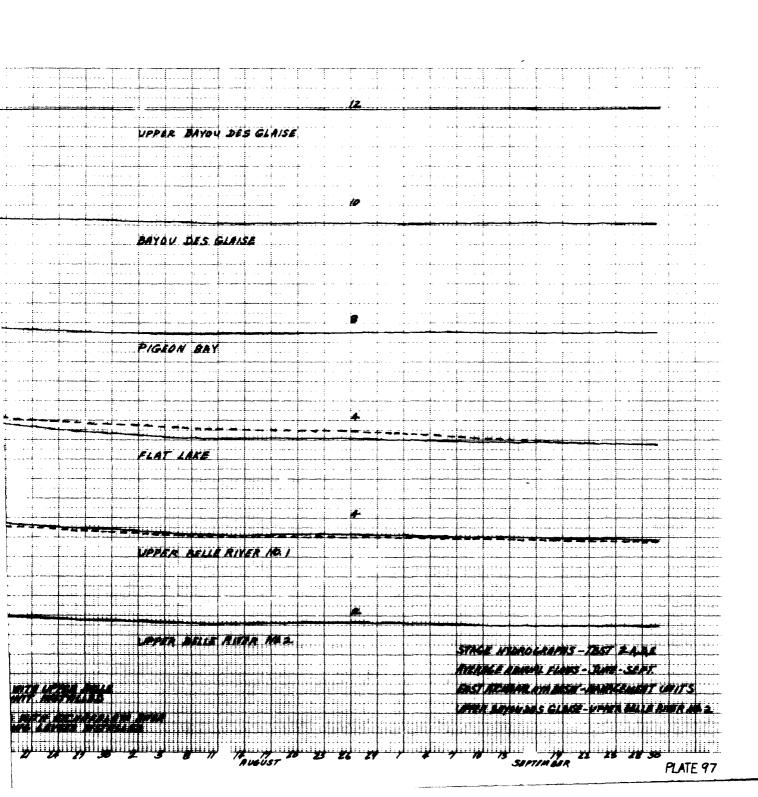


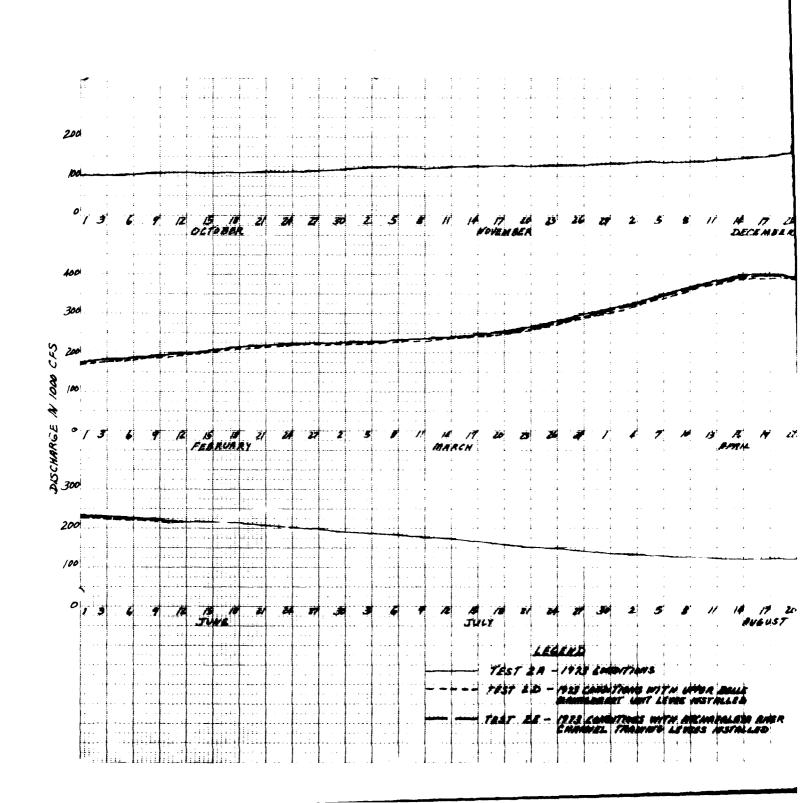




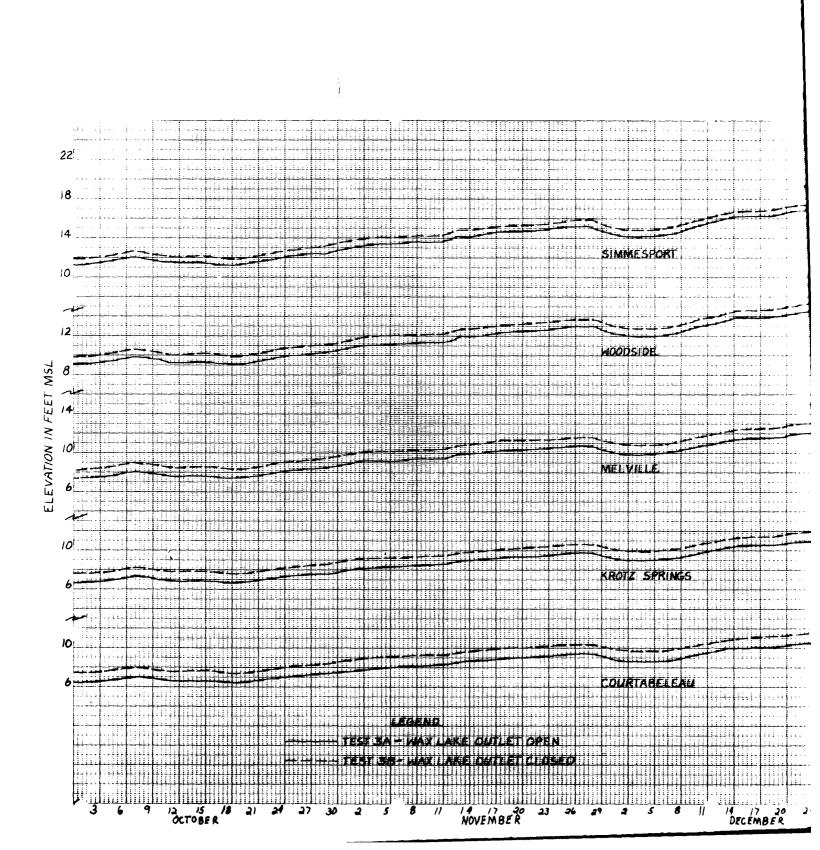


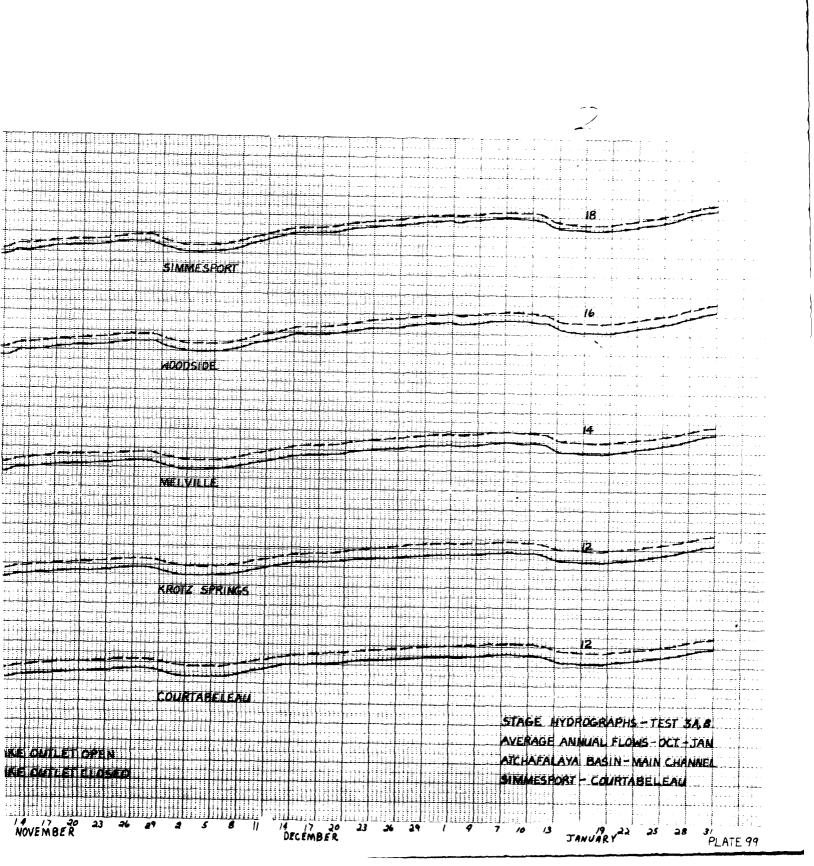


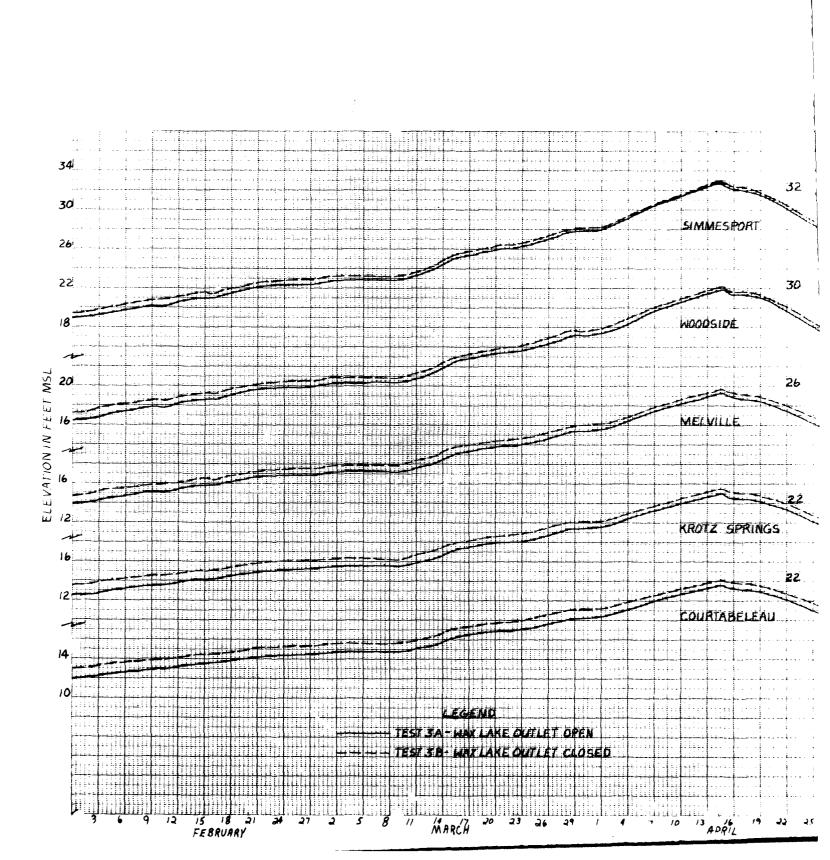


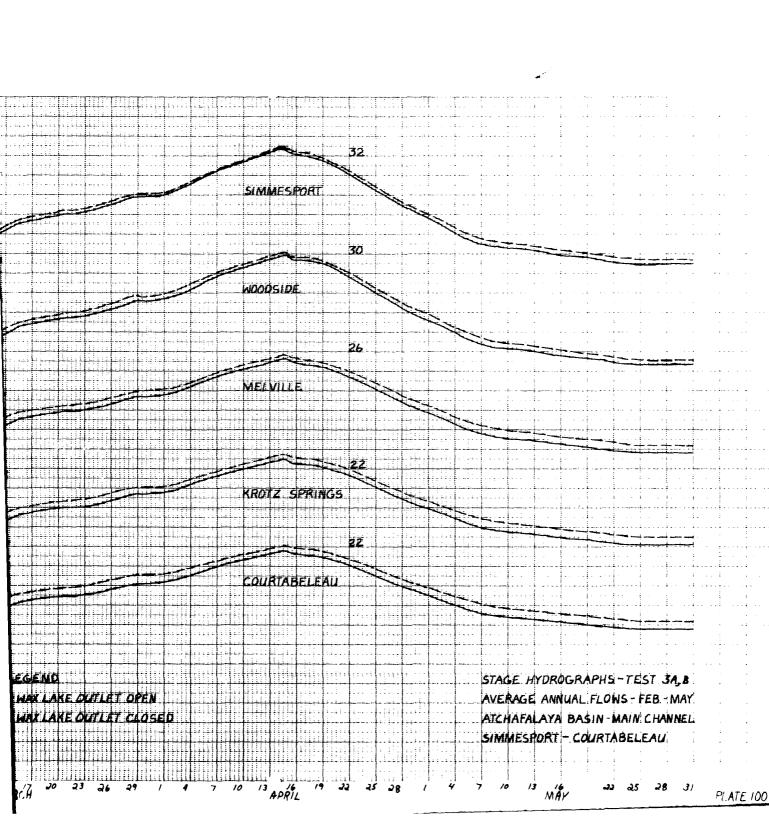


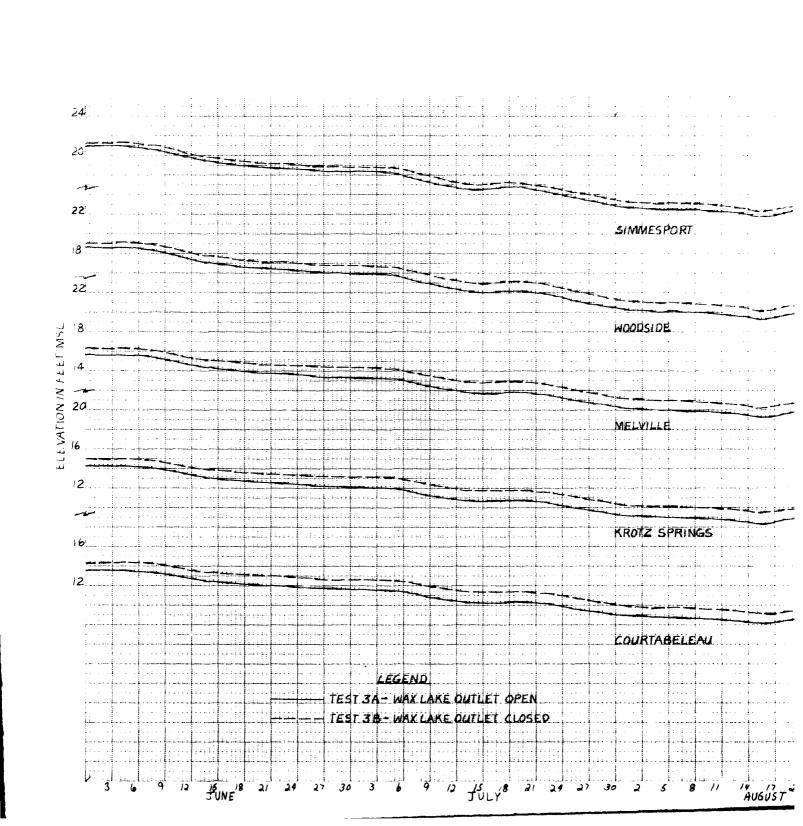
LEGEND DISCHARGE WYDROGRAPHS-TEST ZADE TEST 2A - 1928 COMPITANS ATENAFALAYA BAY FULLET ISLAND, LA

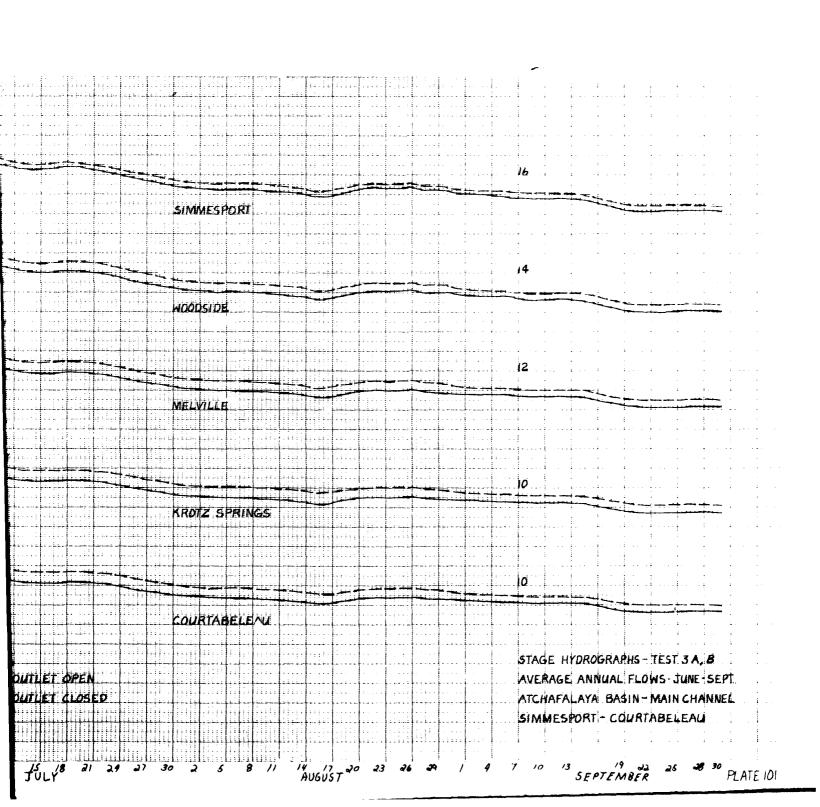


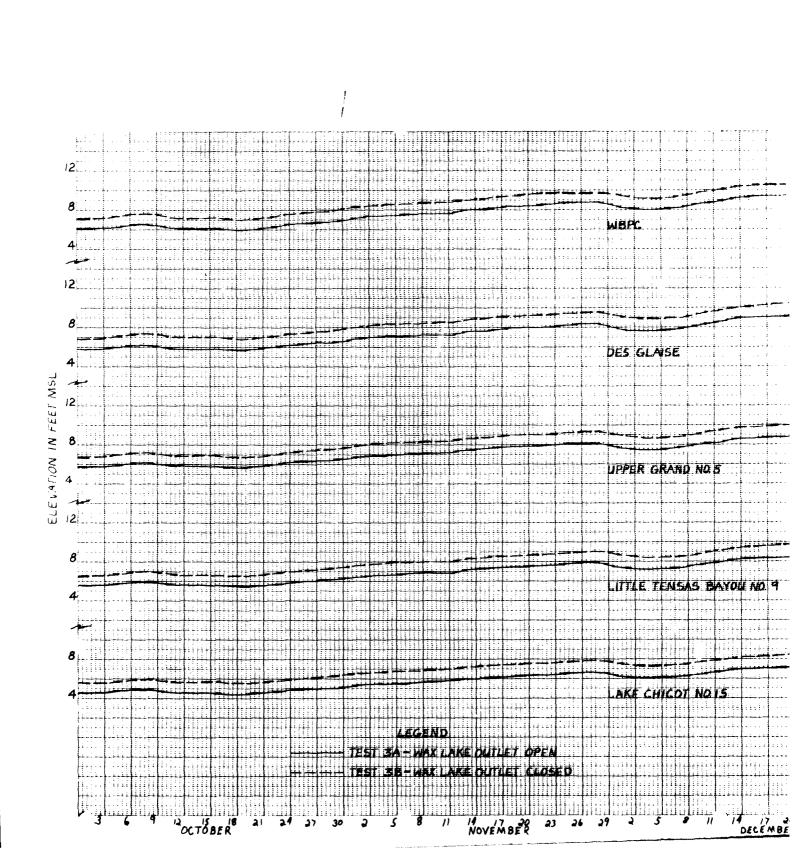


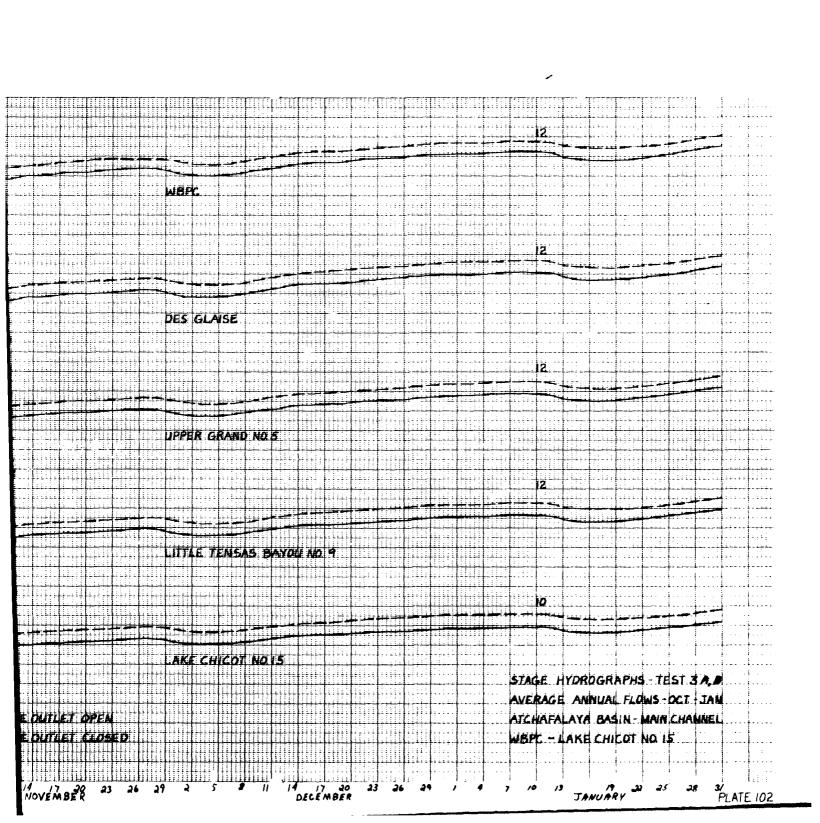




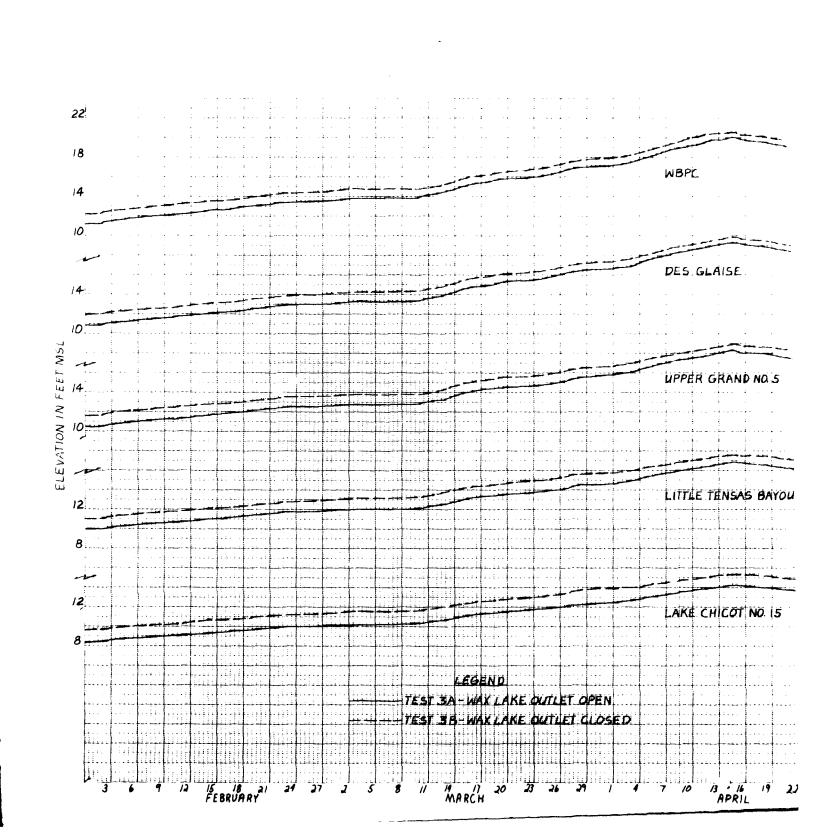


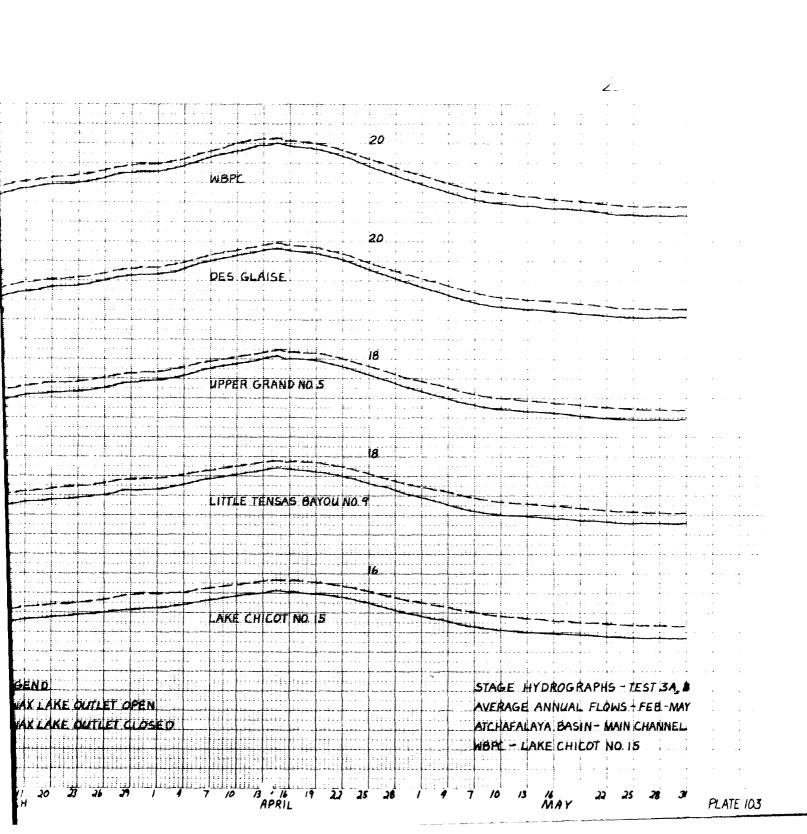


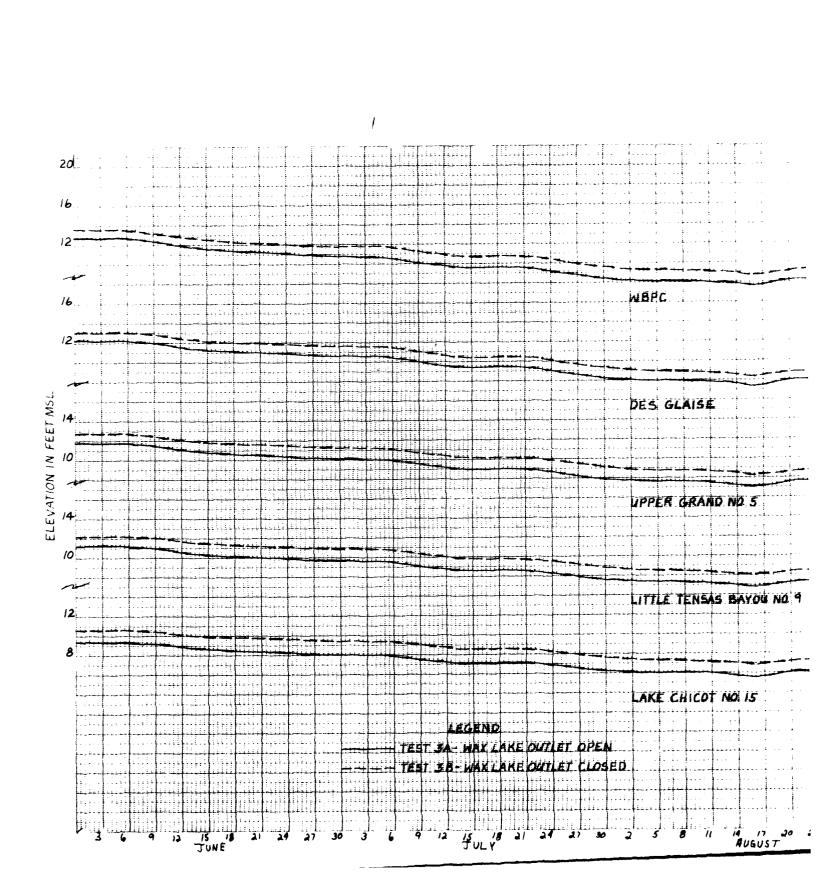


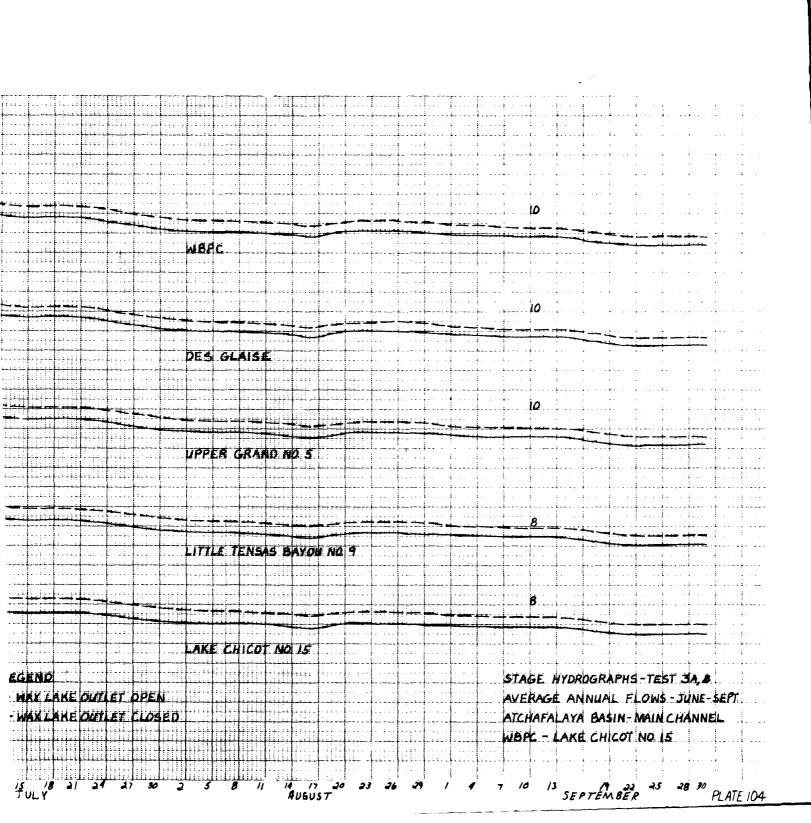


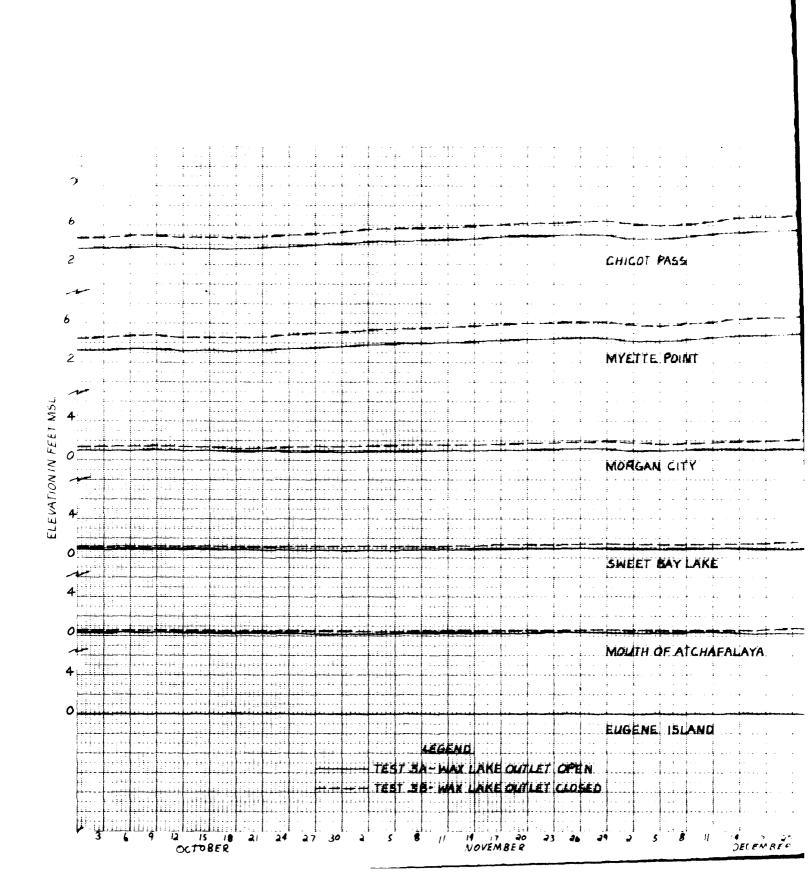


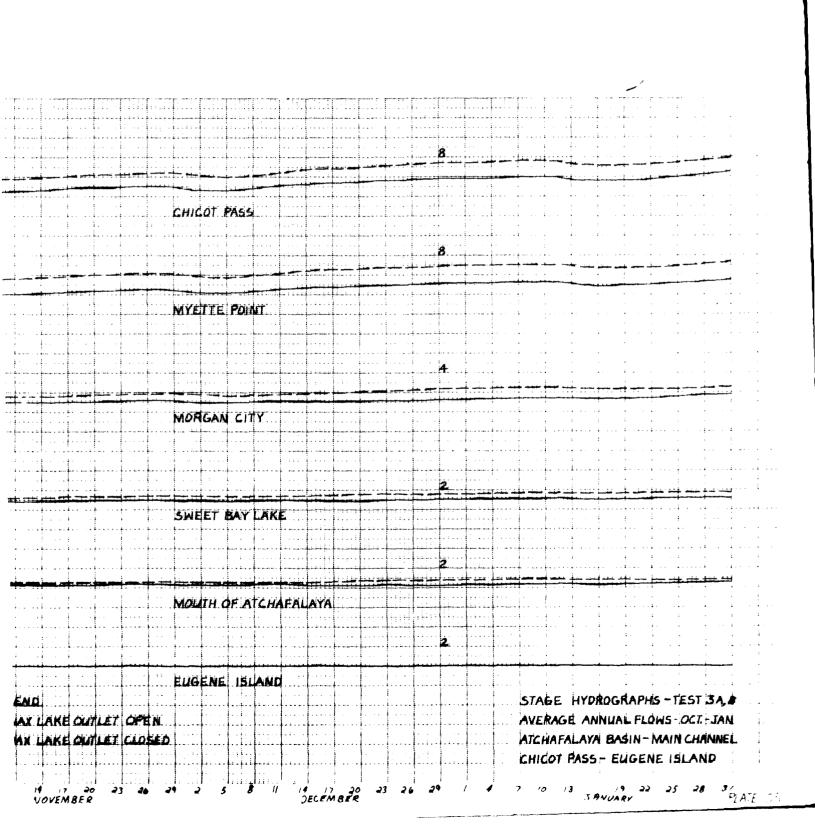


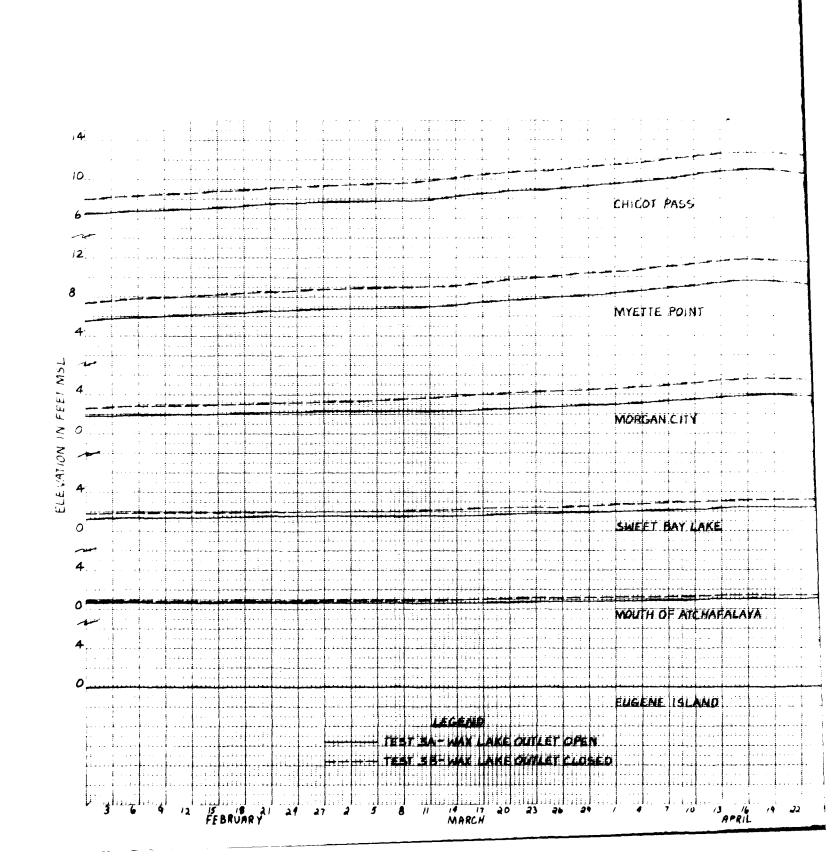


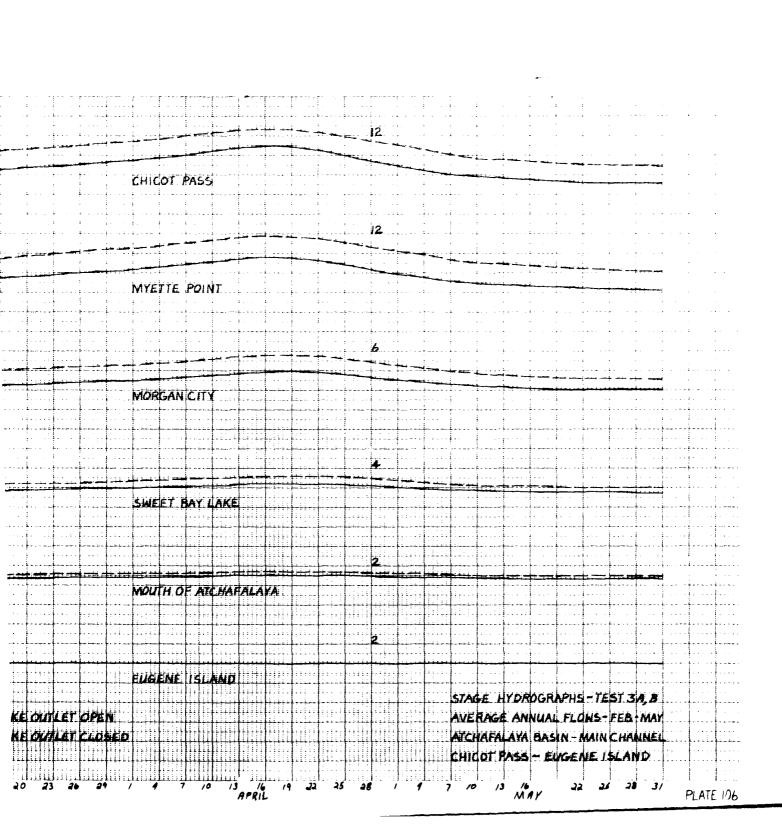


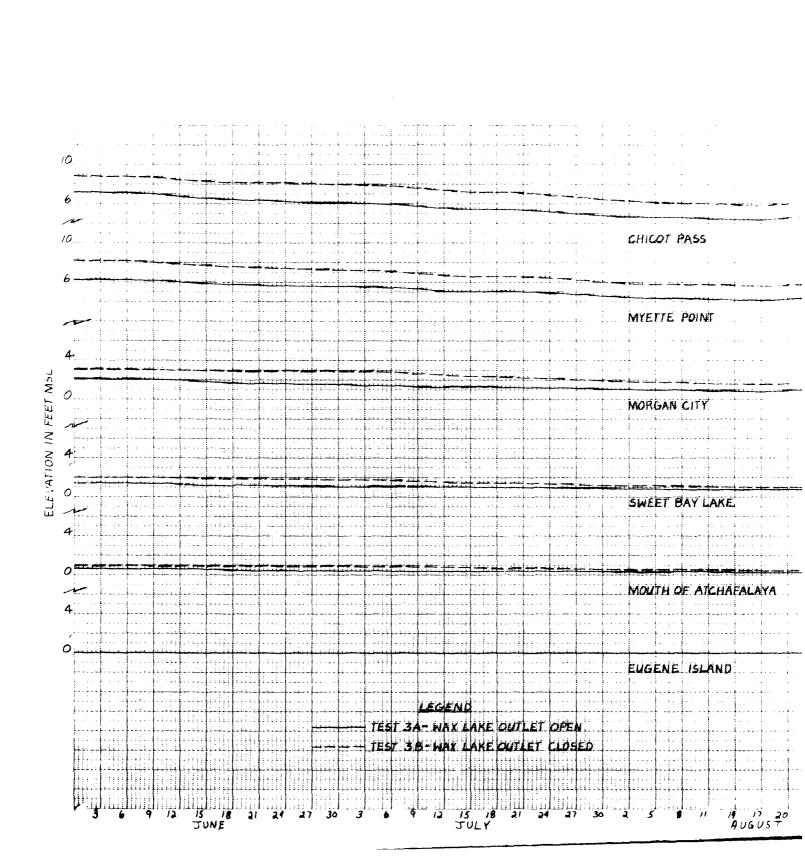


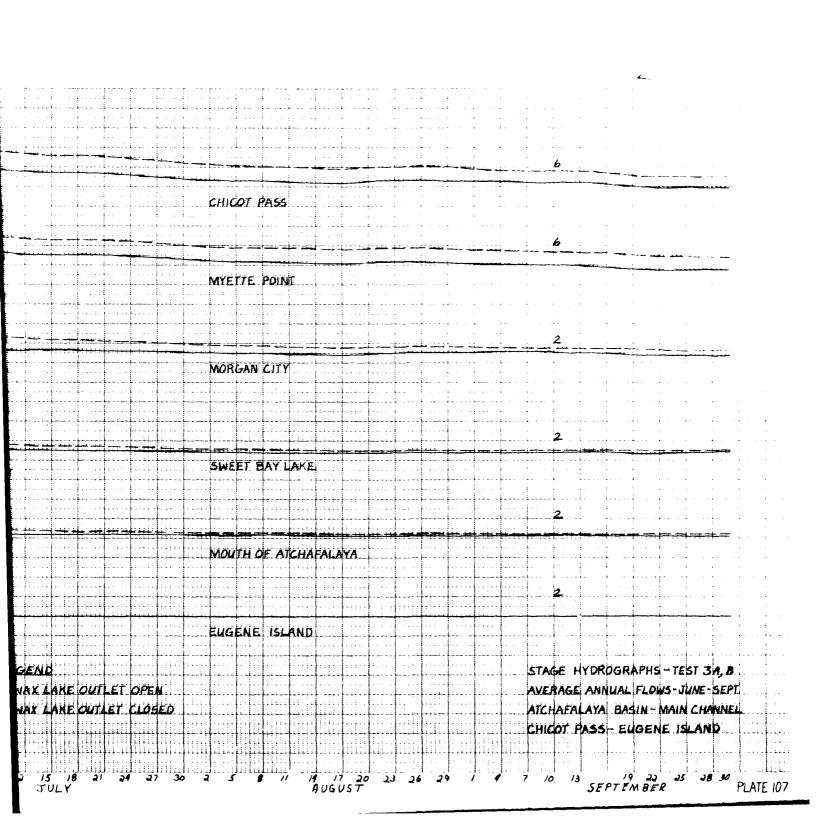


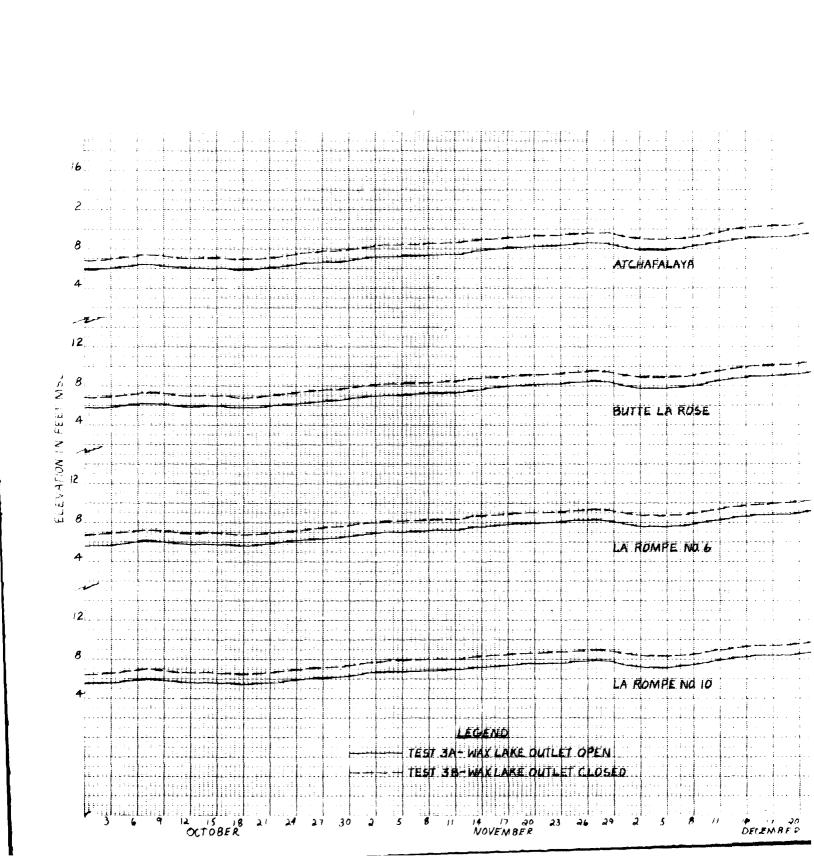


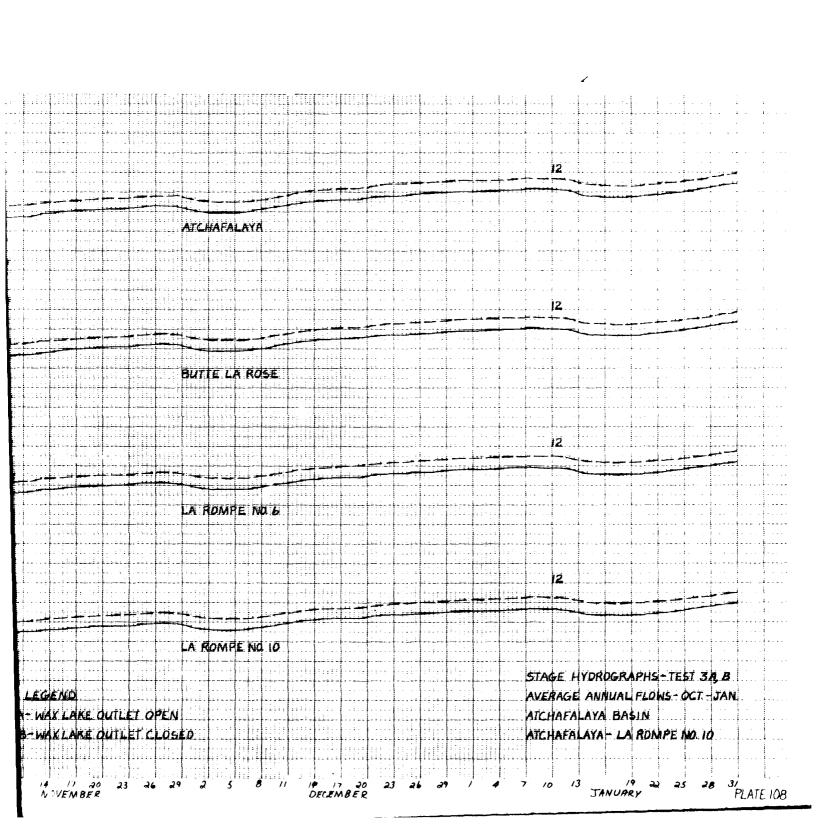


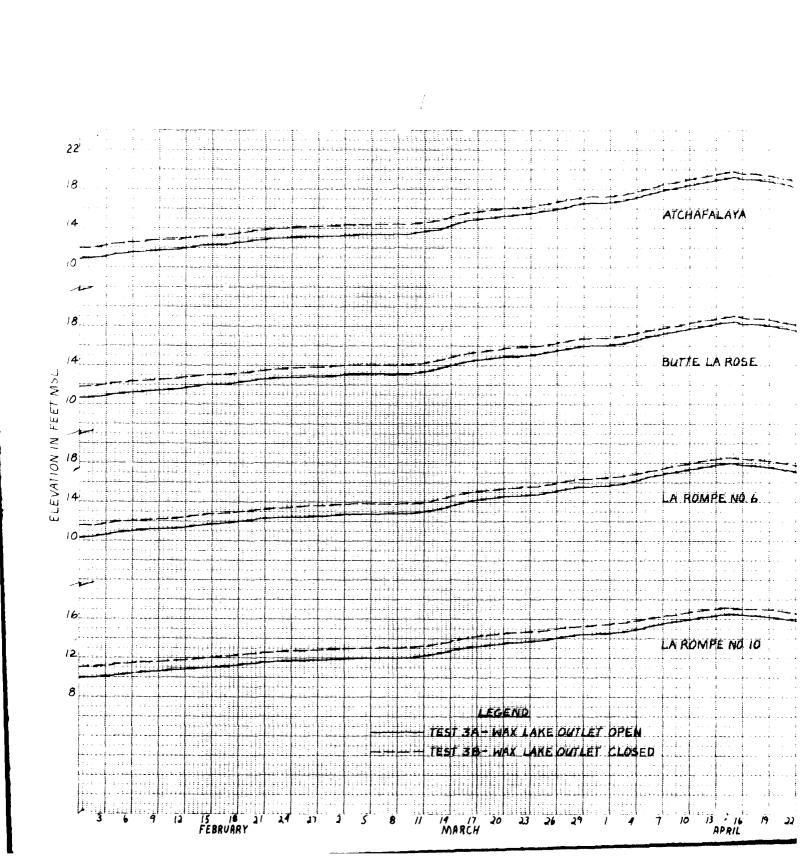


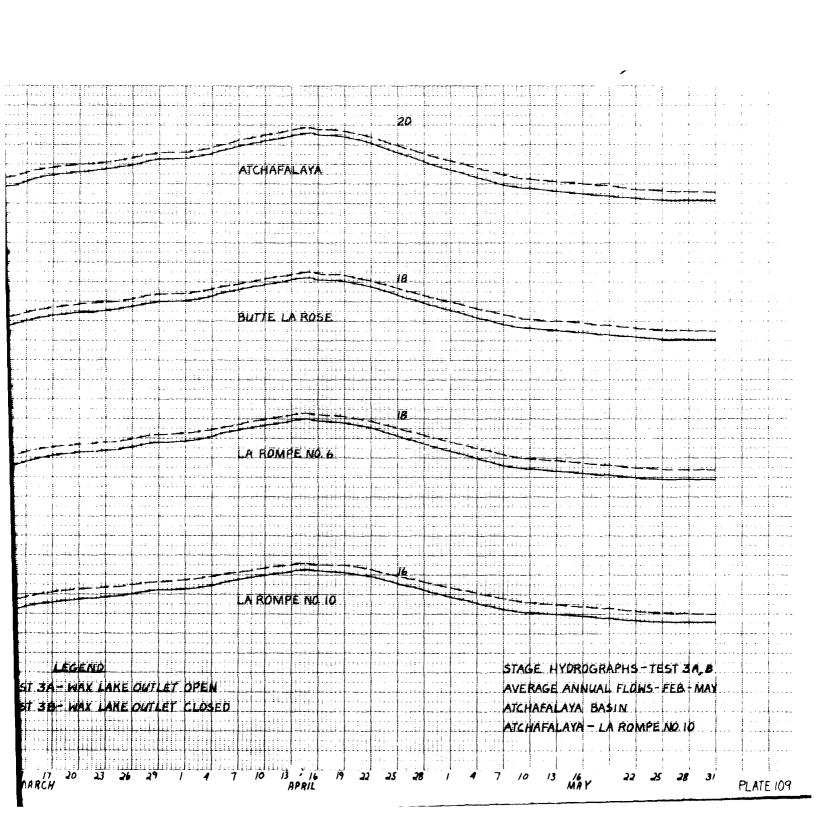


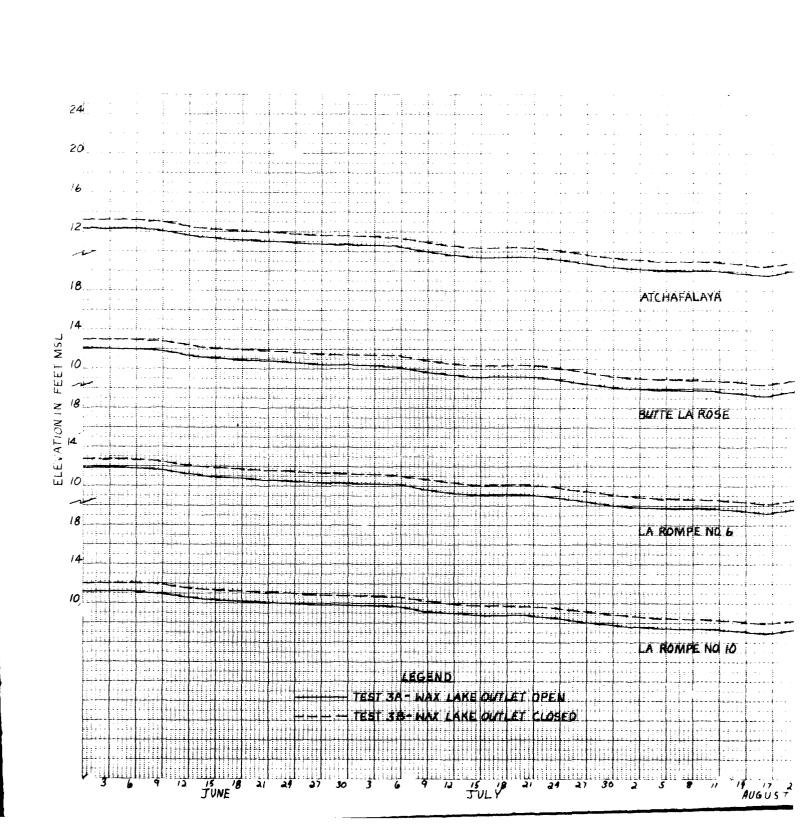


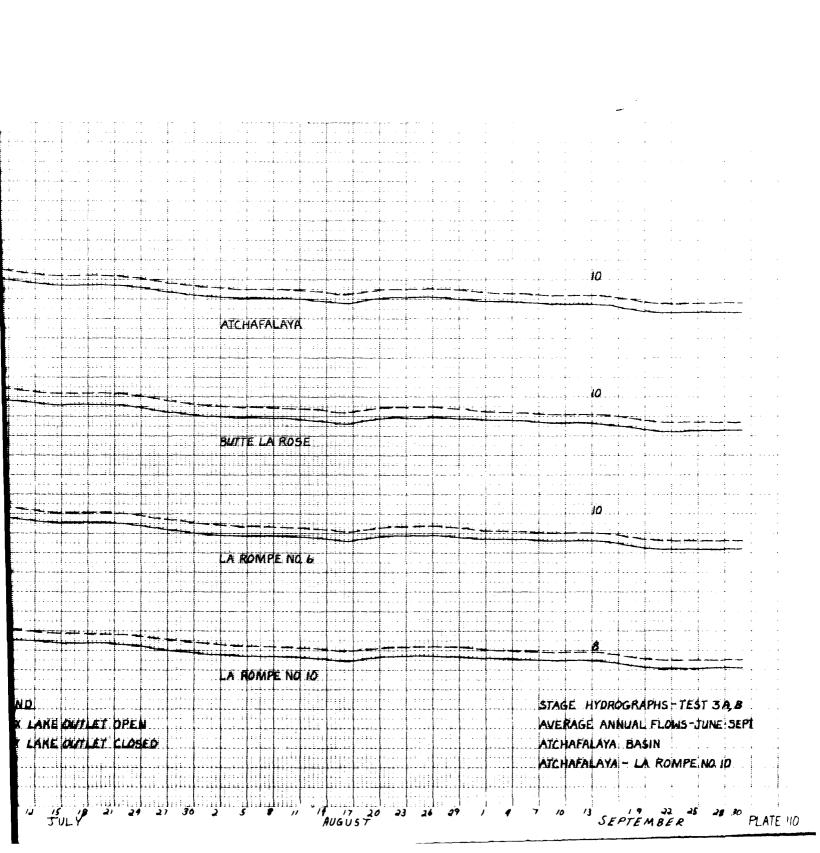


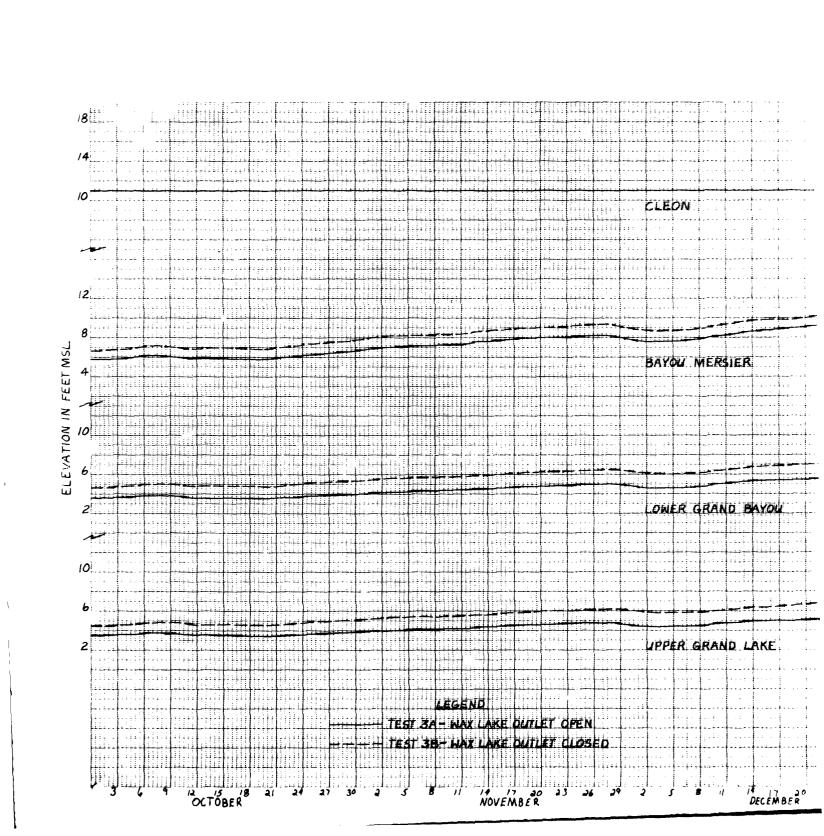




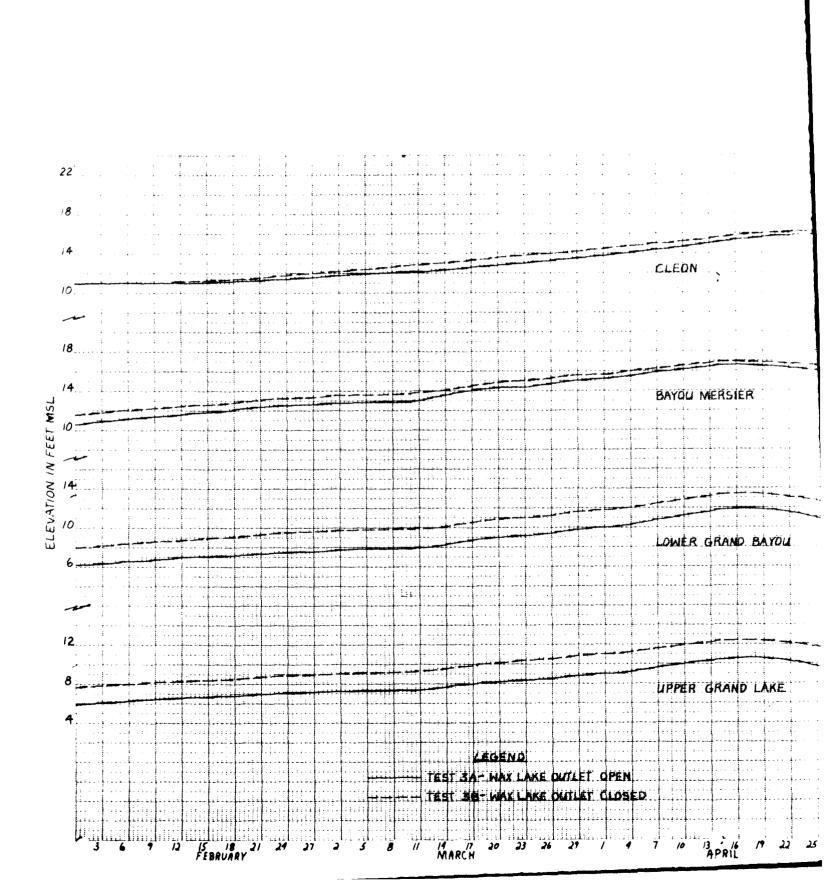


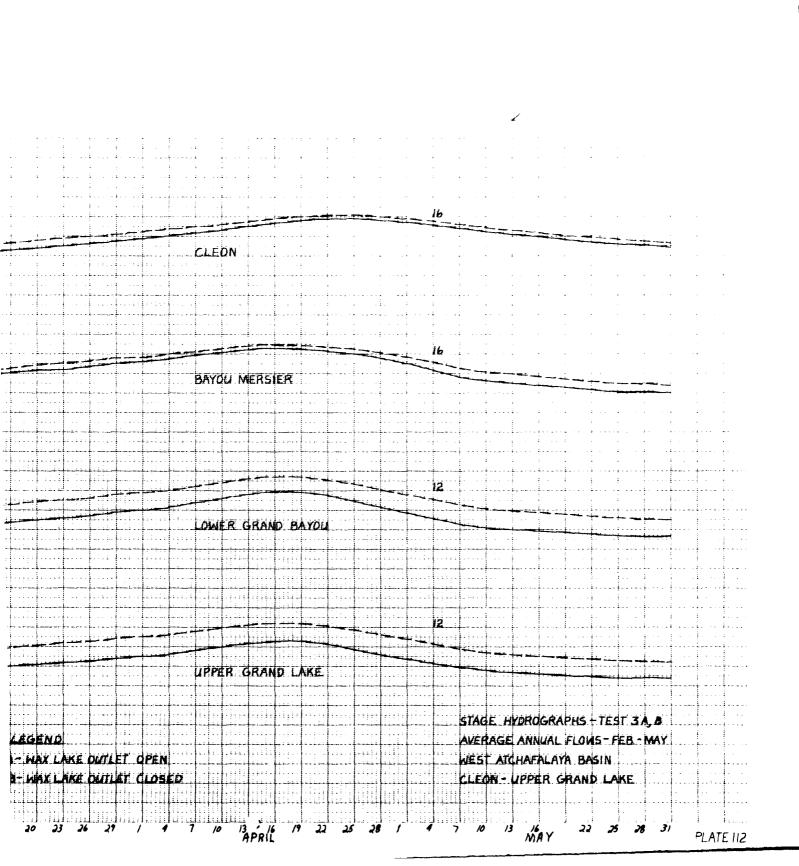


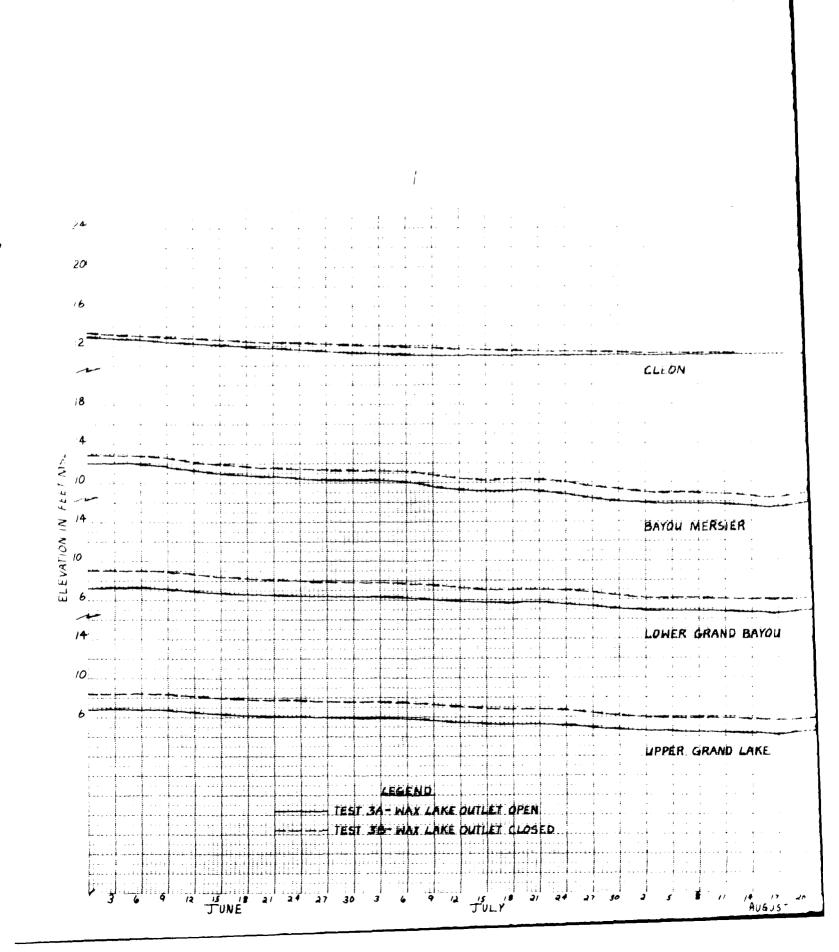




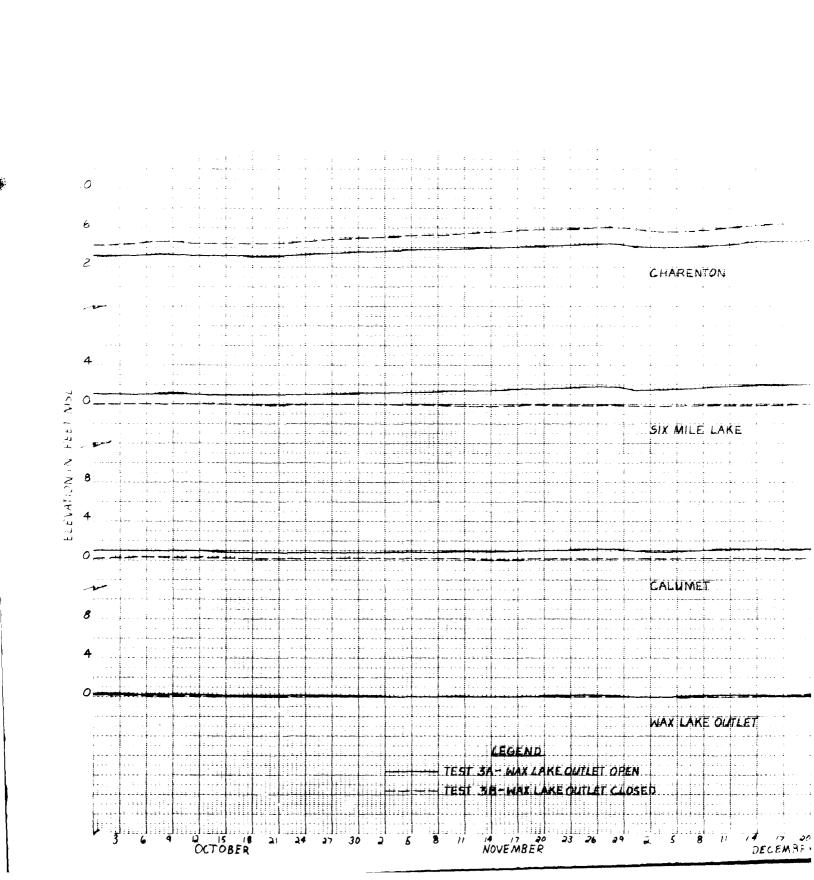
CLEON OWER GRAND BAYOU JPPER GRAND LAKE STAGE HYDROGRAPHS - TEST 3A, 8 AVERAGE ANNUAL FLOWS FOCT JAN. KE DUTLET OPEN WEST ATCHAFALAYA BASIN. CLEON - UPPER GRAND LAKE DECEMBER 31 PLATE III



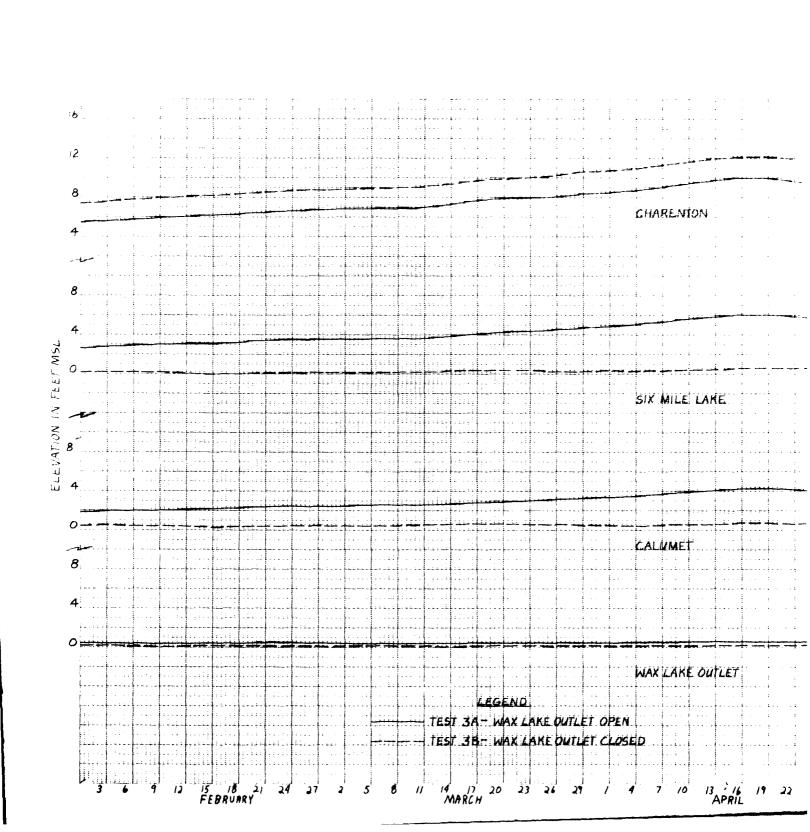


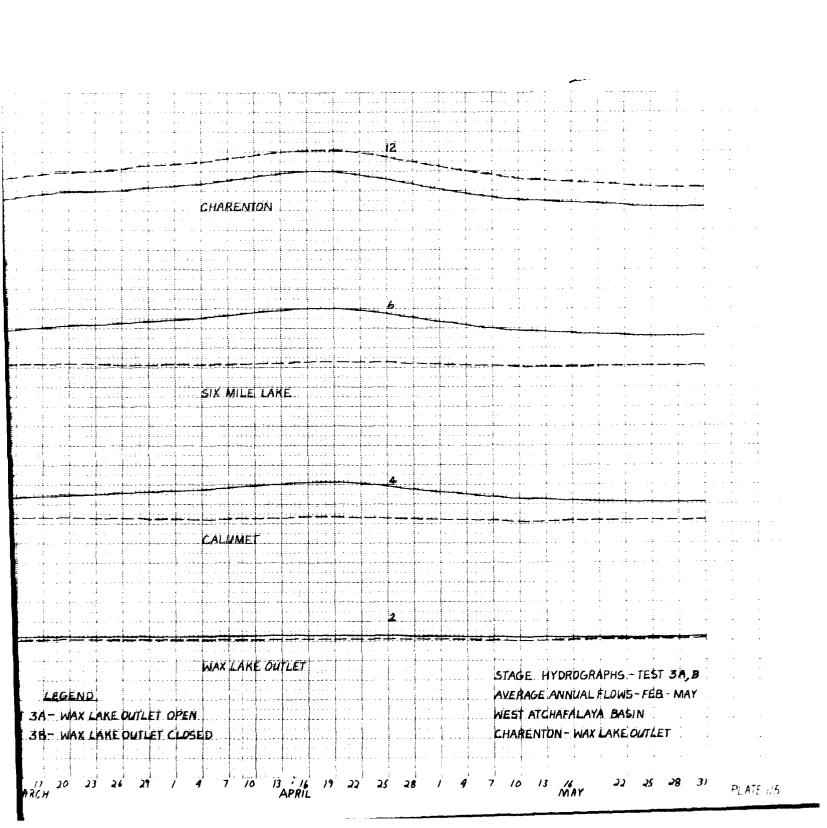


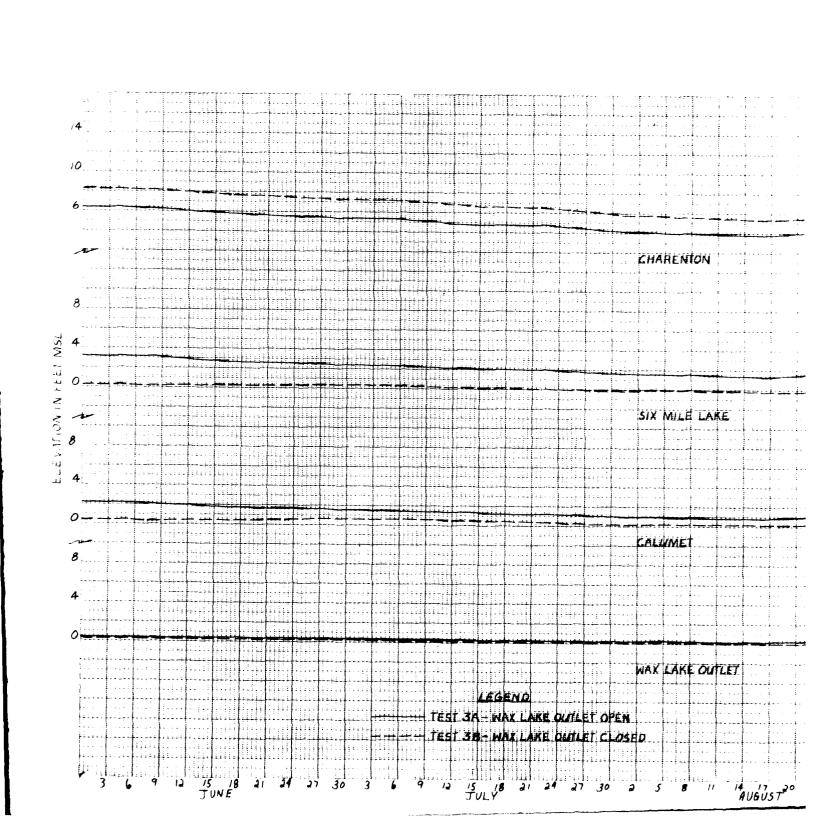
BAYOU MERSIER UPPER GRAND LAKE STAGE HYDROGRAPHS-TEST 3A,B WILLET OPEN AVERAGE ANNUAL FLOWS -JUNE-SEPT. WEST ATCHAFALAYA BASIN . CLEON - UPPER GRAND LAKE

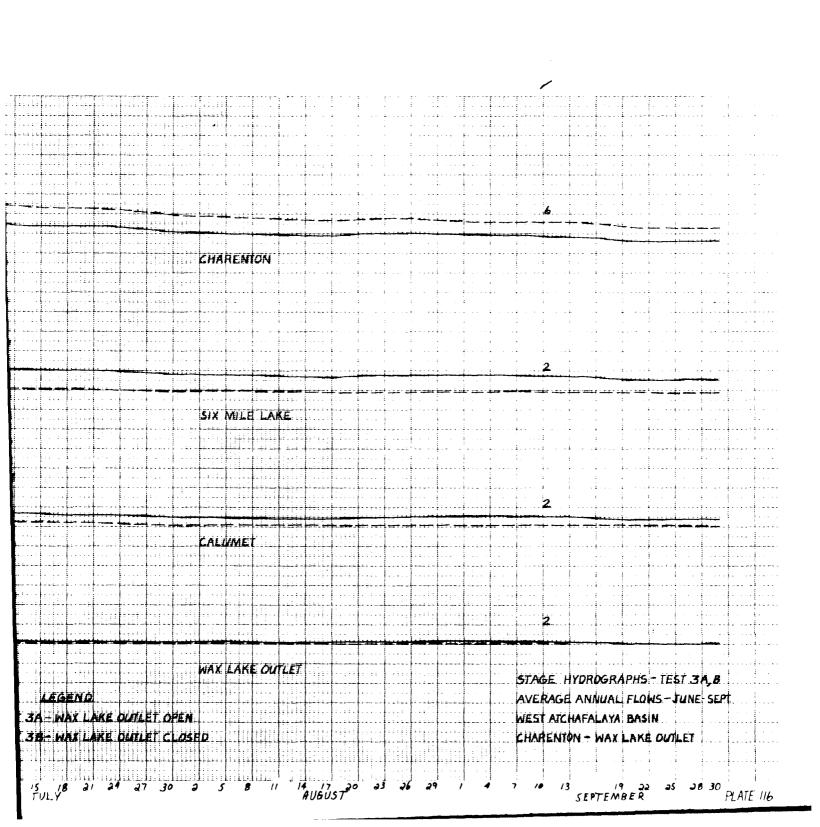


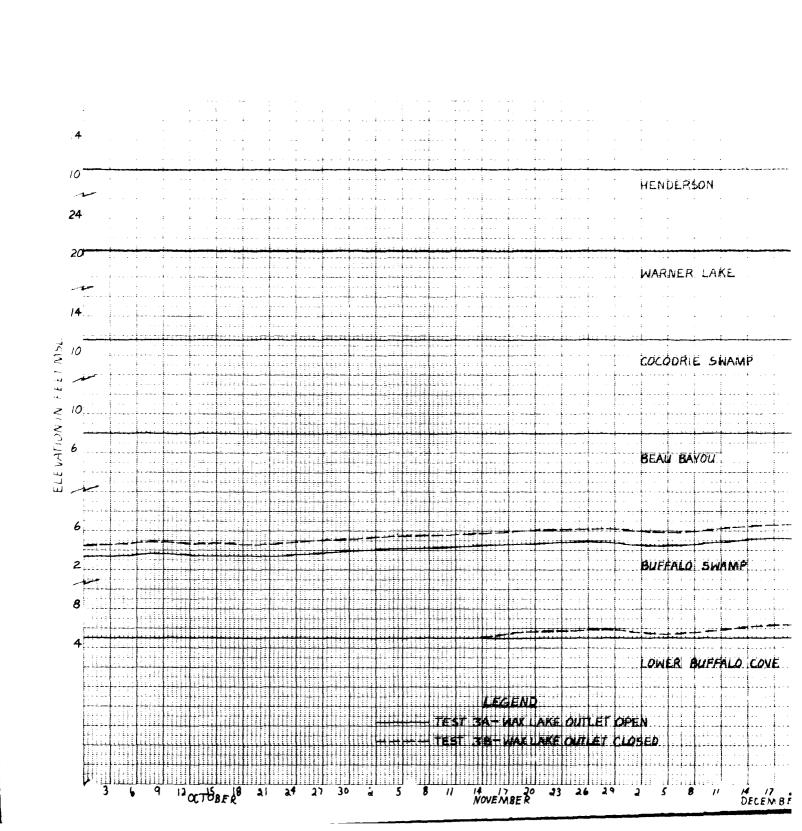
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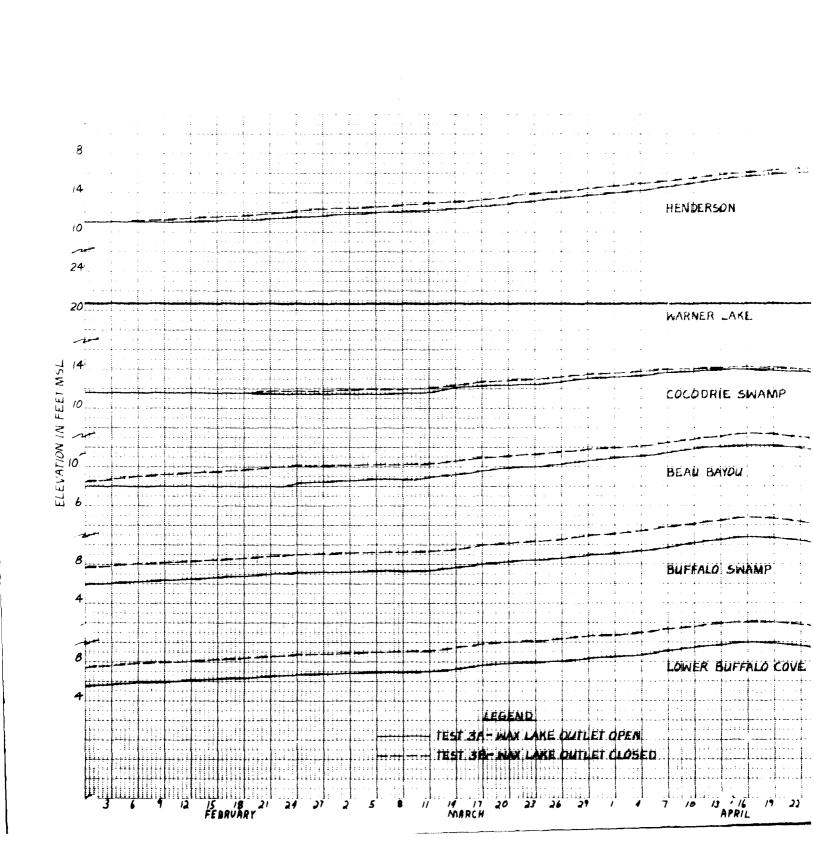


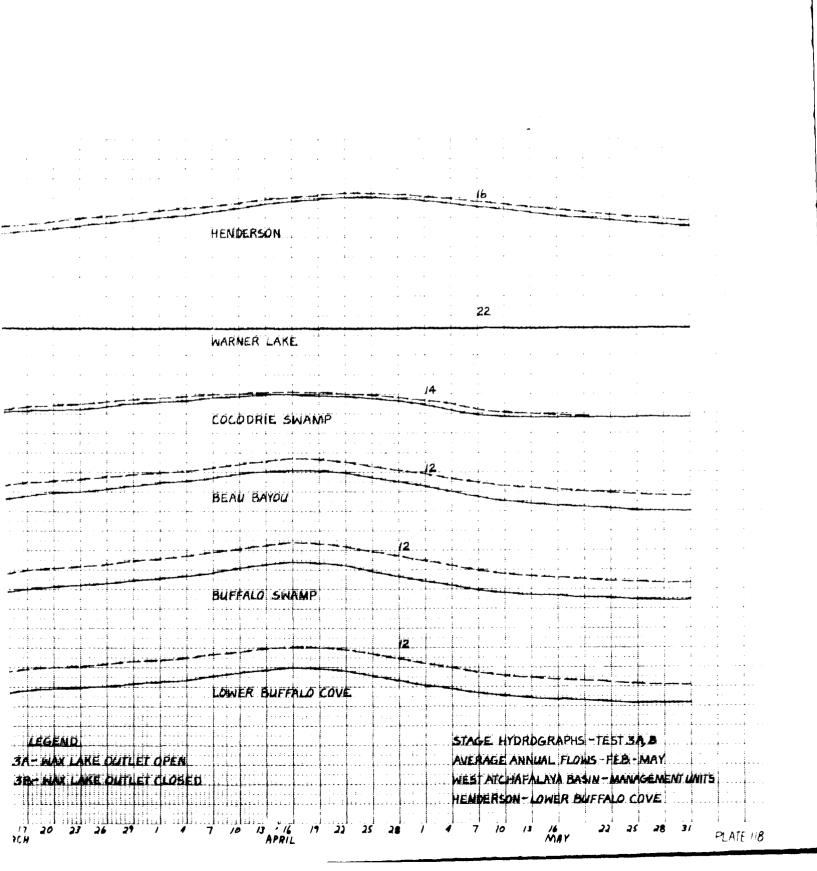


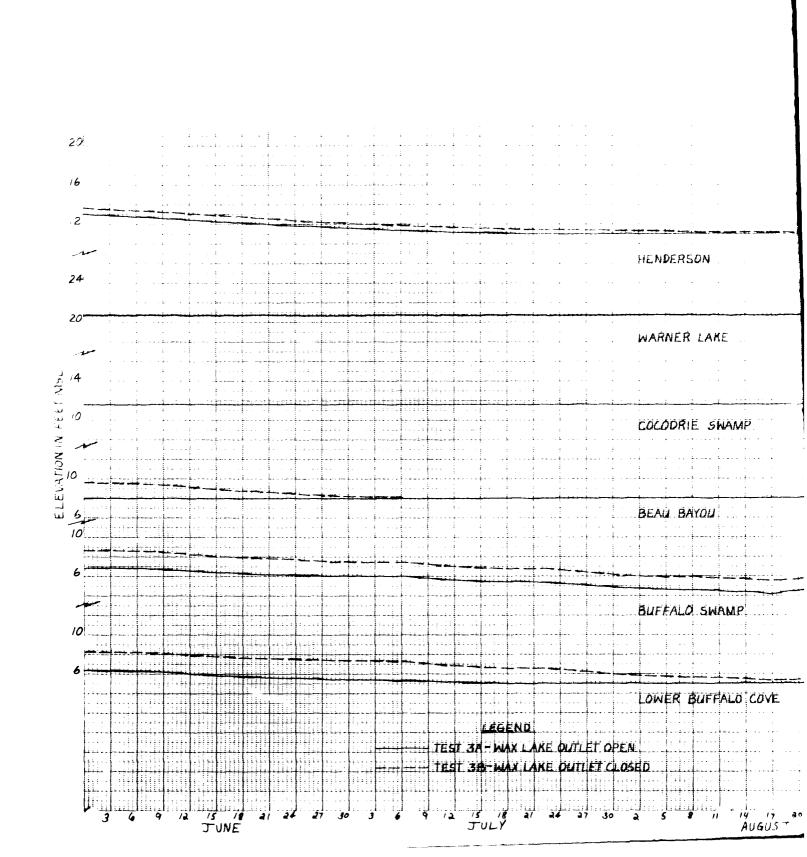


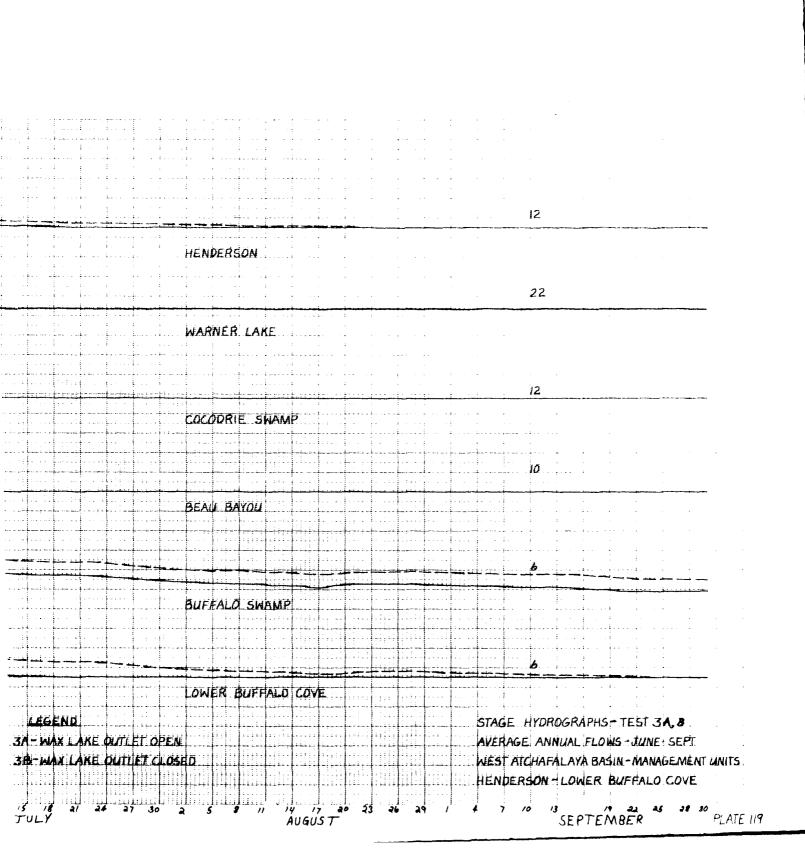


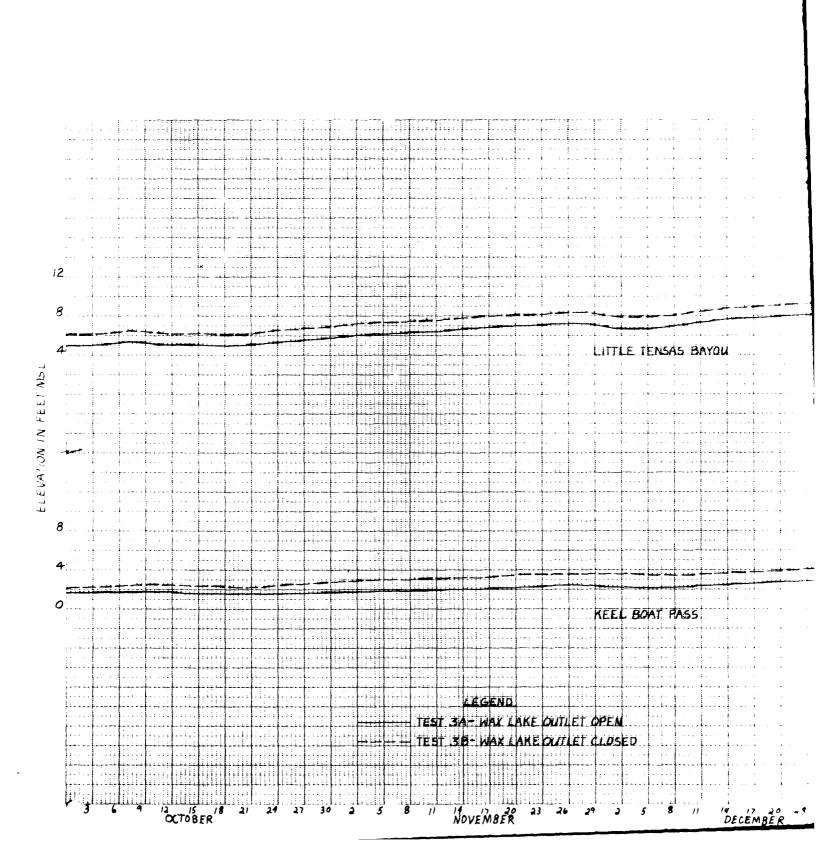
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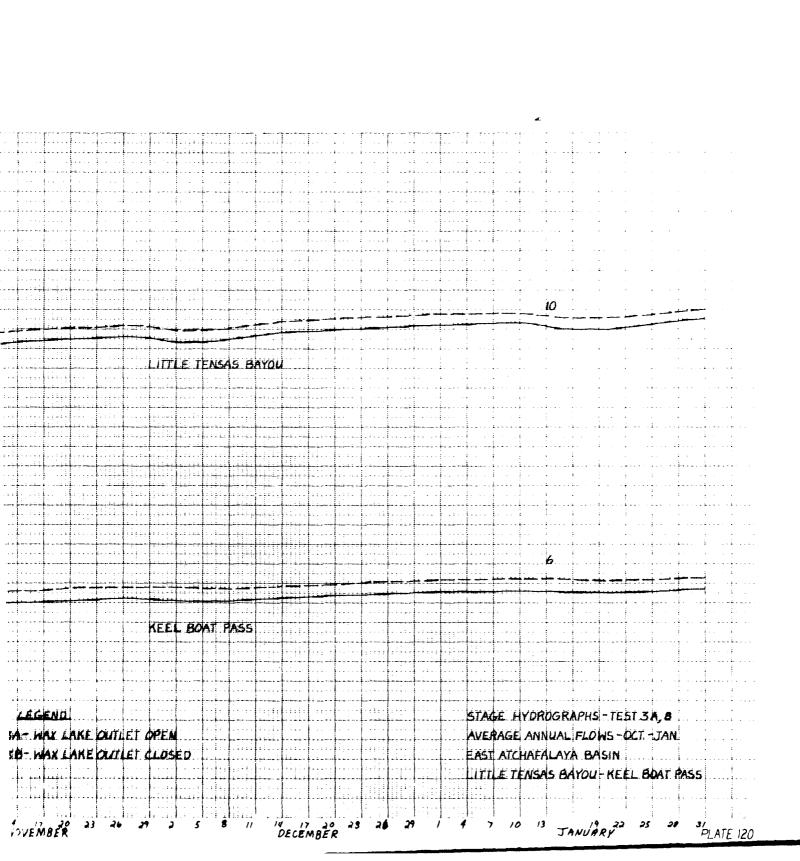


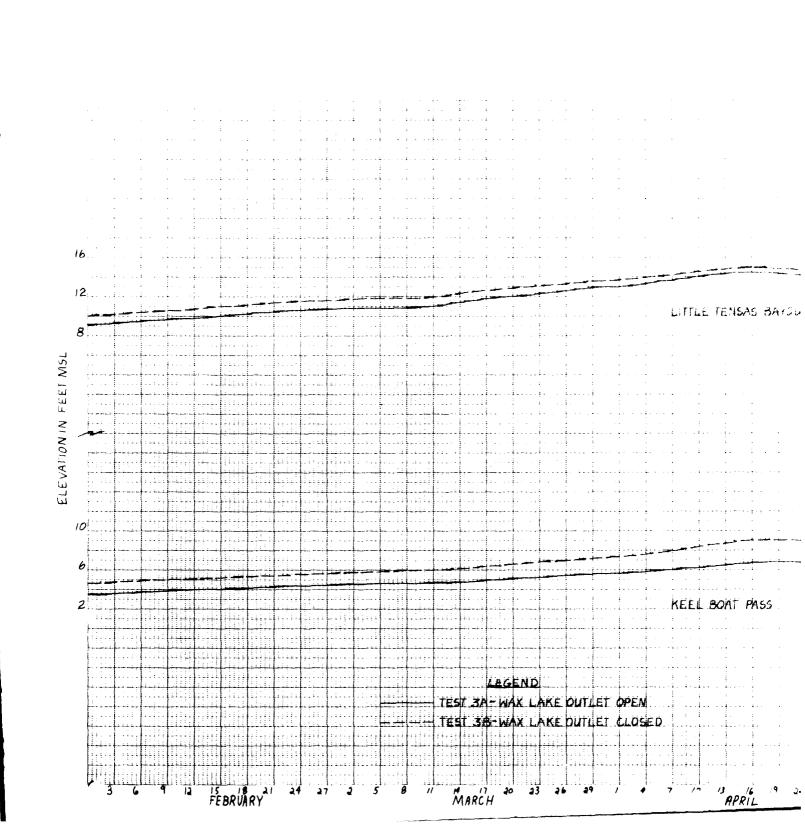










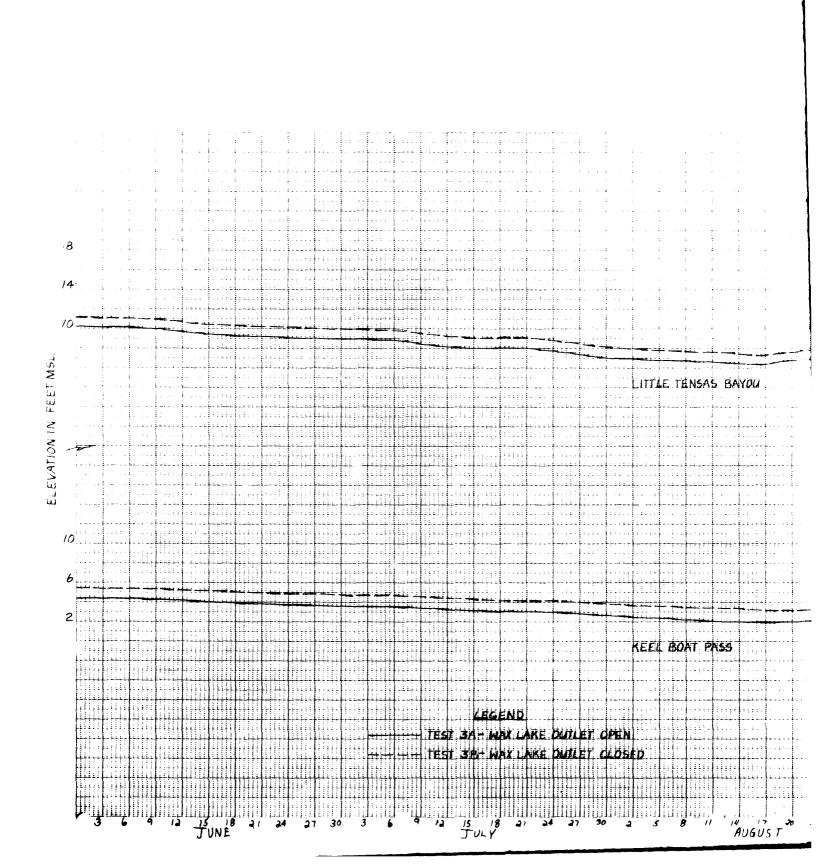


LITTLE TENSAS BAYOU

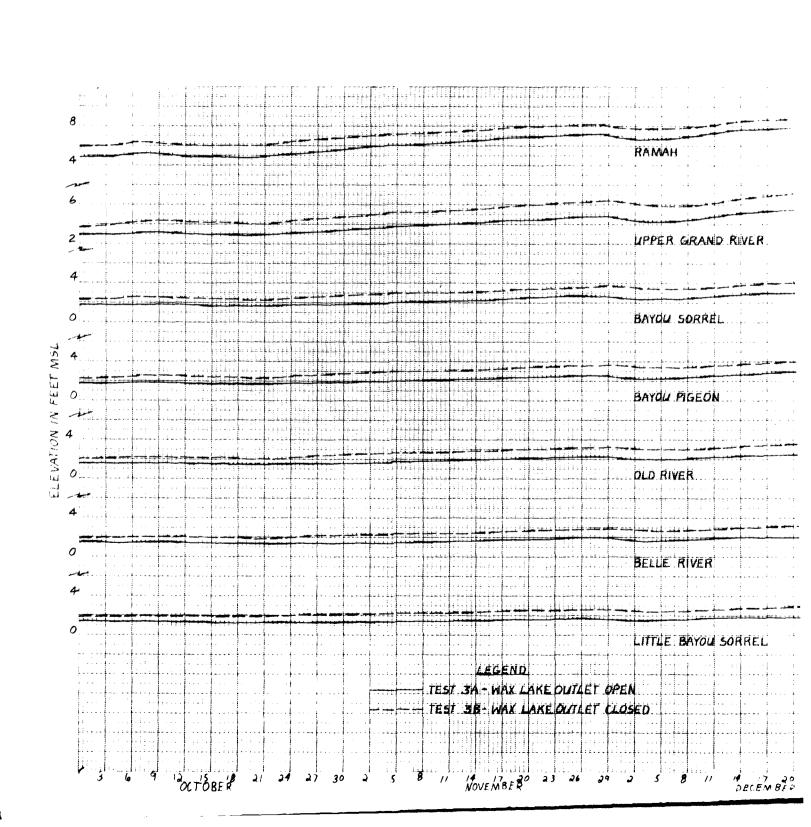
WAX LAKE OUTLET OPEN WAX LAKE DUTLET CLOSED

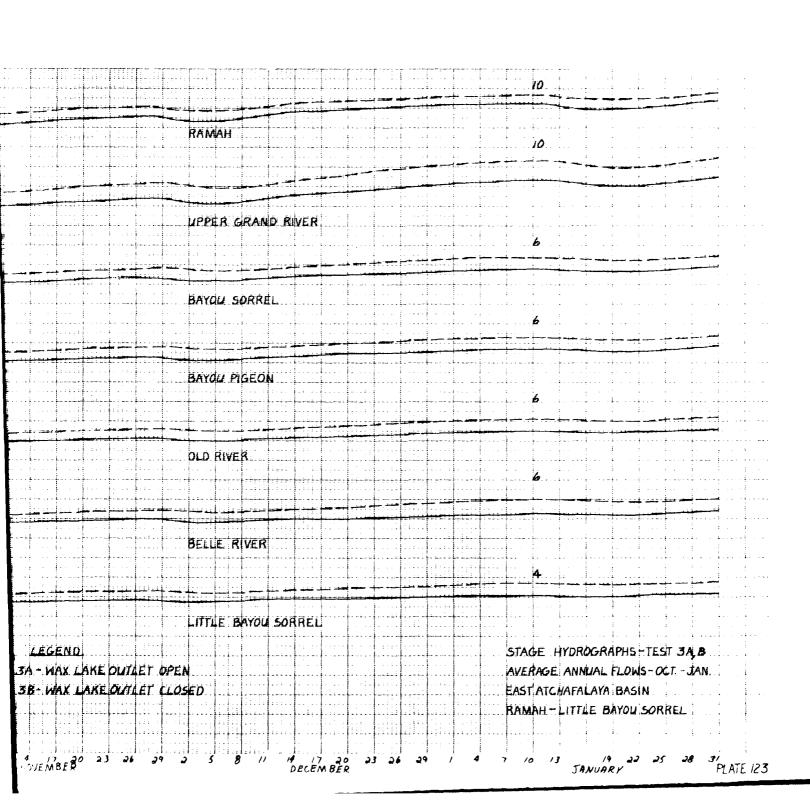
STAGE HYDROGRAPHS - TEST 34,8 AVERAGE ANNUAL FLOWS : FEB - MAY EAST ATCHAFALAYA BASIN LITTLE TENSAS BAYOU - KEEL BOAT PASS

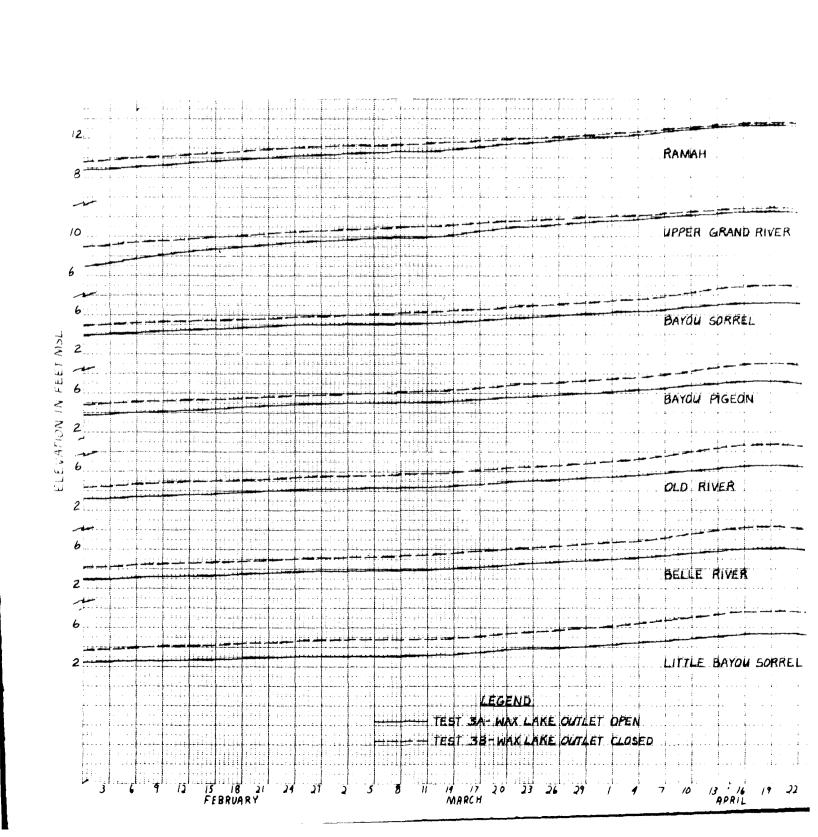
P. ATE 121

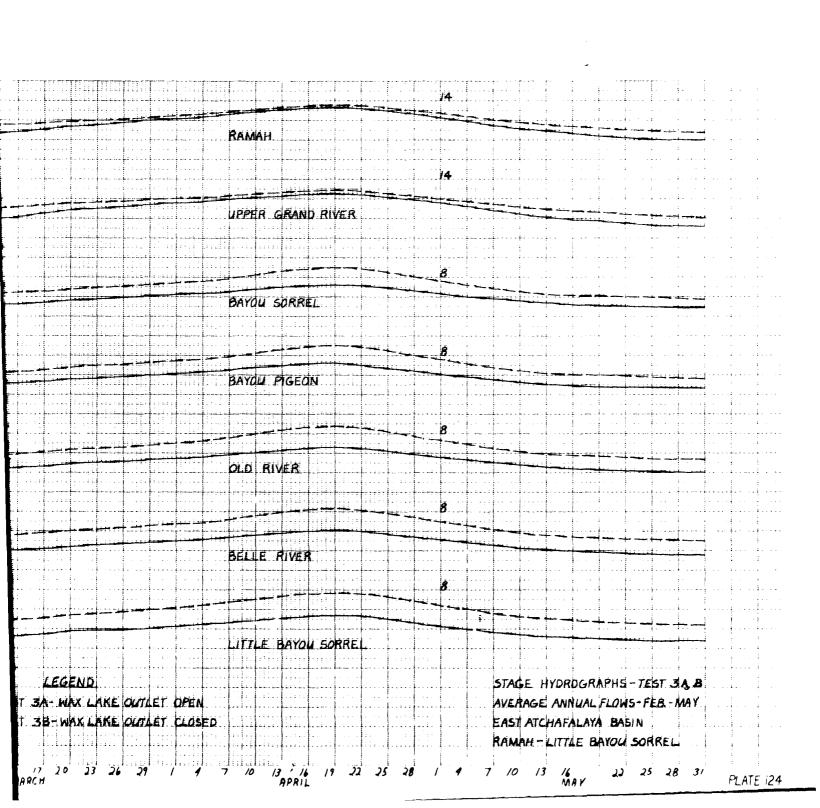


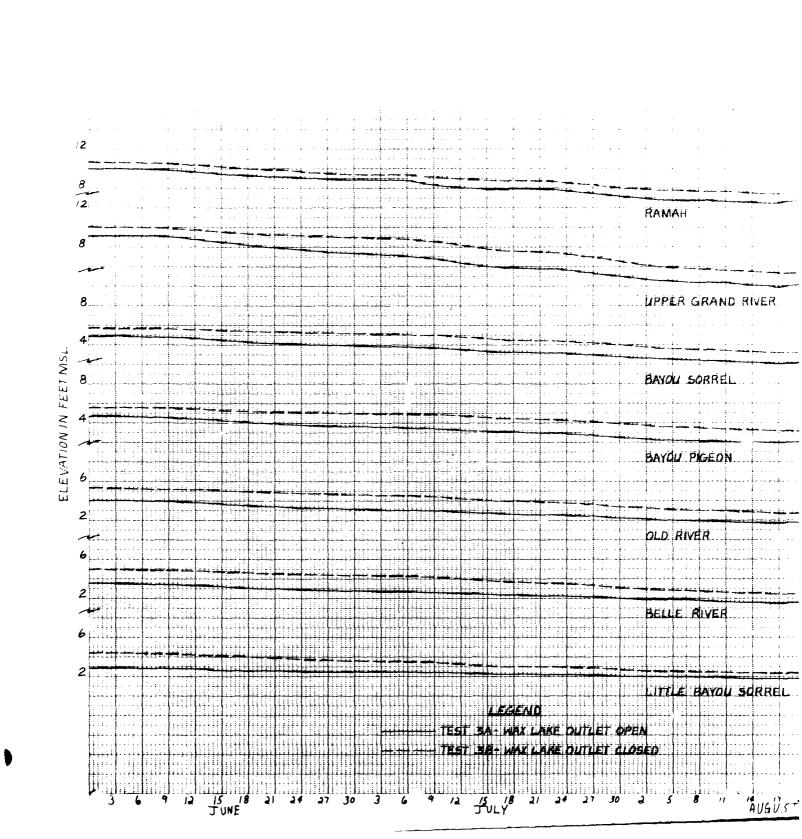
ITTLE TENSAS BAYOU KEEL BOAT PASS STAGE HYDROGRAPHS - TEST 34 8 - wax lake outlet open AVERAGE ANNUAL FLOWS - JUNE - SEPT. WAX LAKE DUILET CLOSED EAST ATCHAFALAYA BASIN LITTLE TENSAS BAYOU KEEL BOAT PASS SEPTEMBER PLATE 122 AUGUST



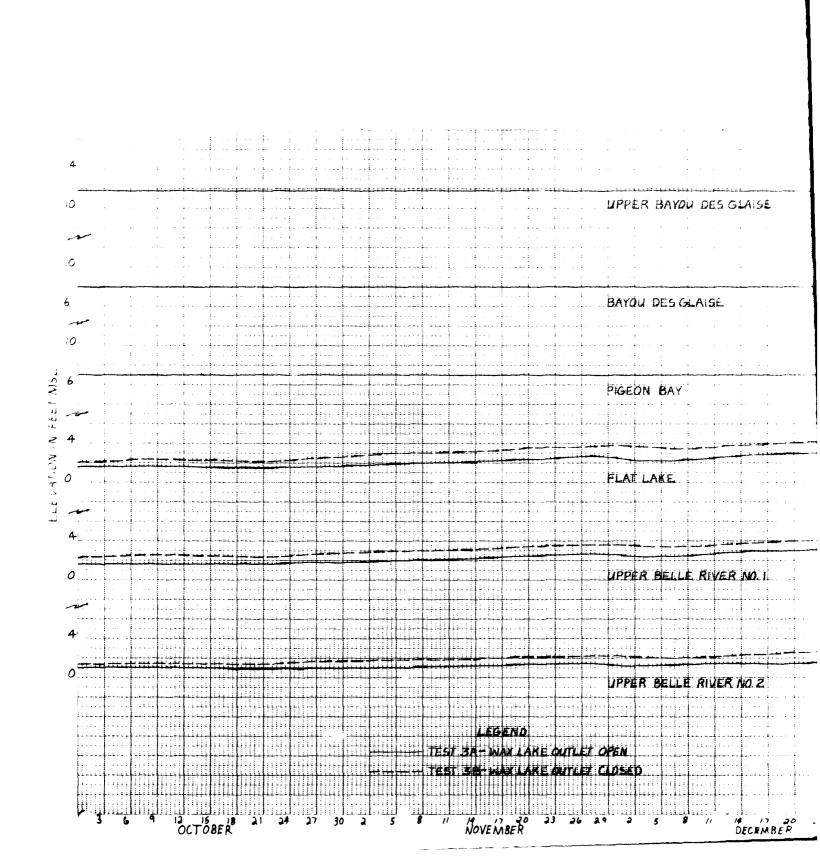


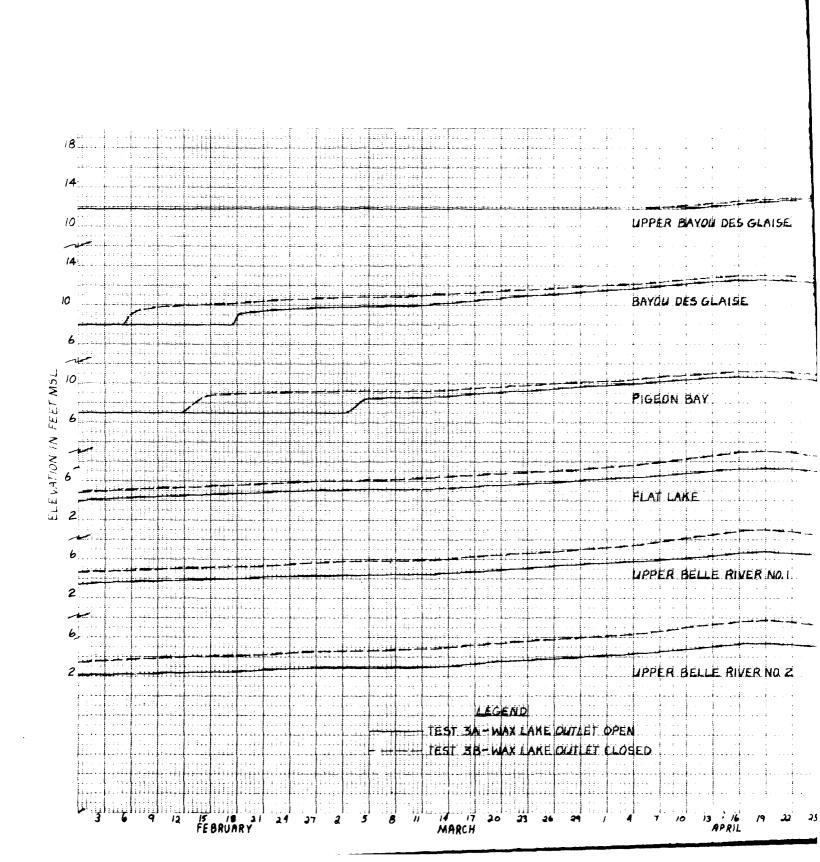


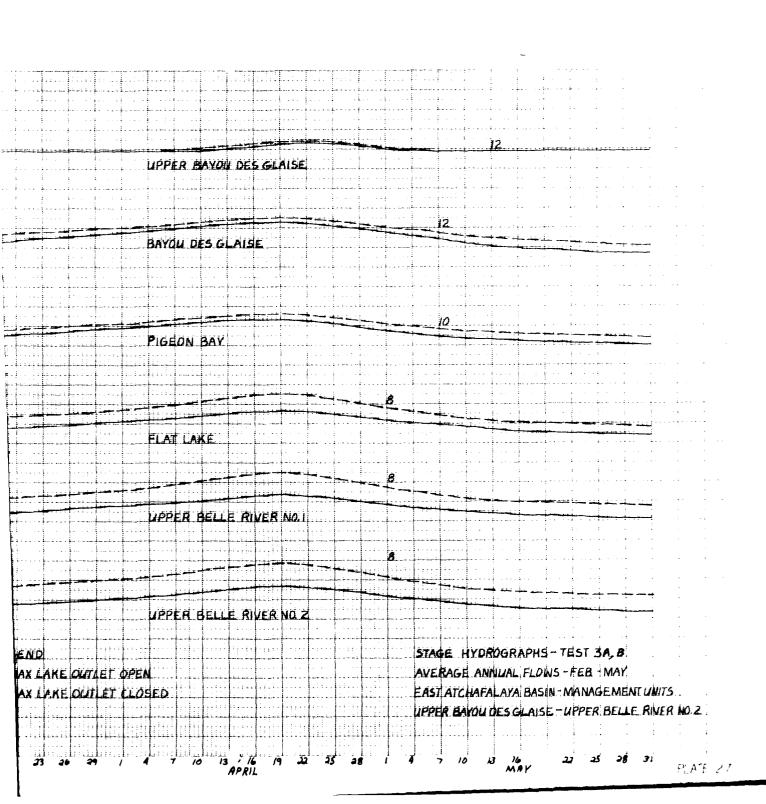


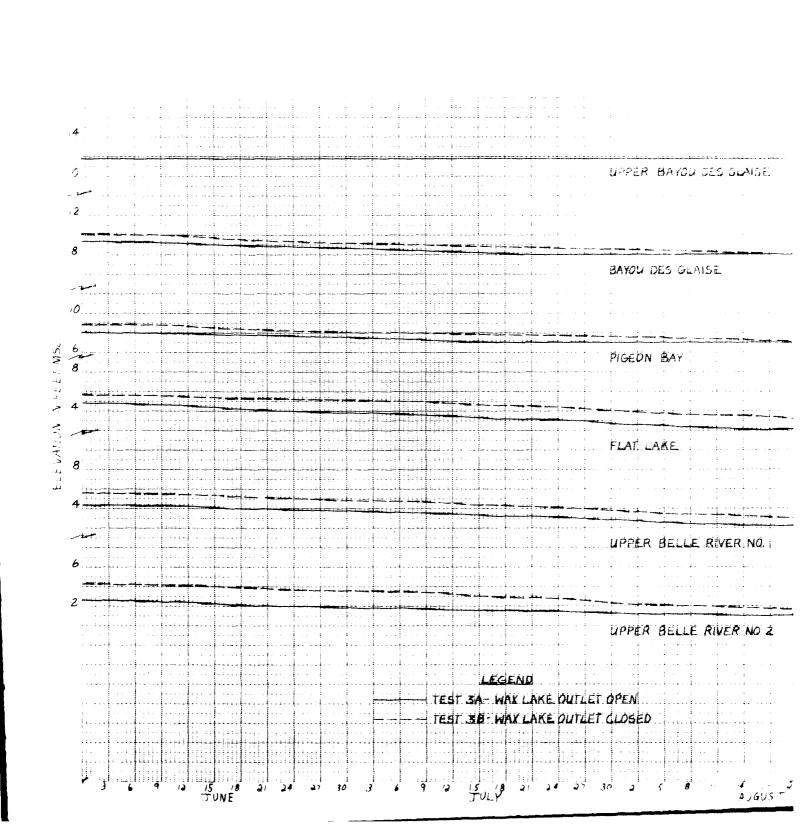


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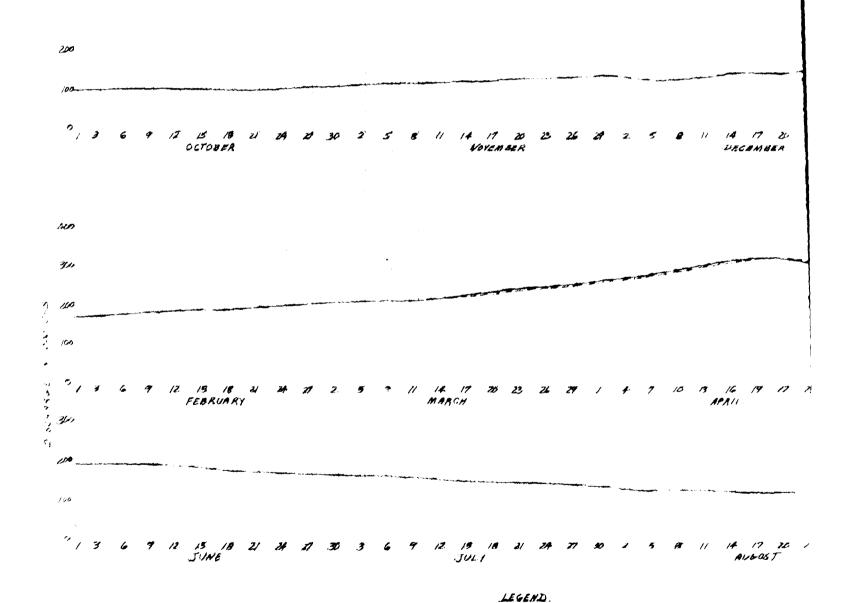








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TEST 3A WAR LAKE OUTLET OF BN

14 17 20 25 26 28 28 28 11 14 17 26 26 26 26 17 DISCHARGE NYDROGRAPHS TEST 34.8

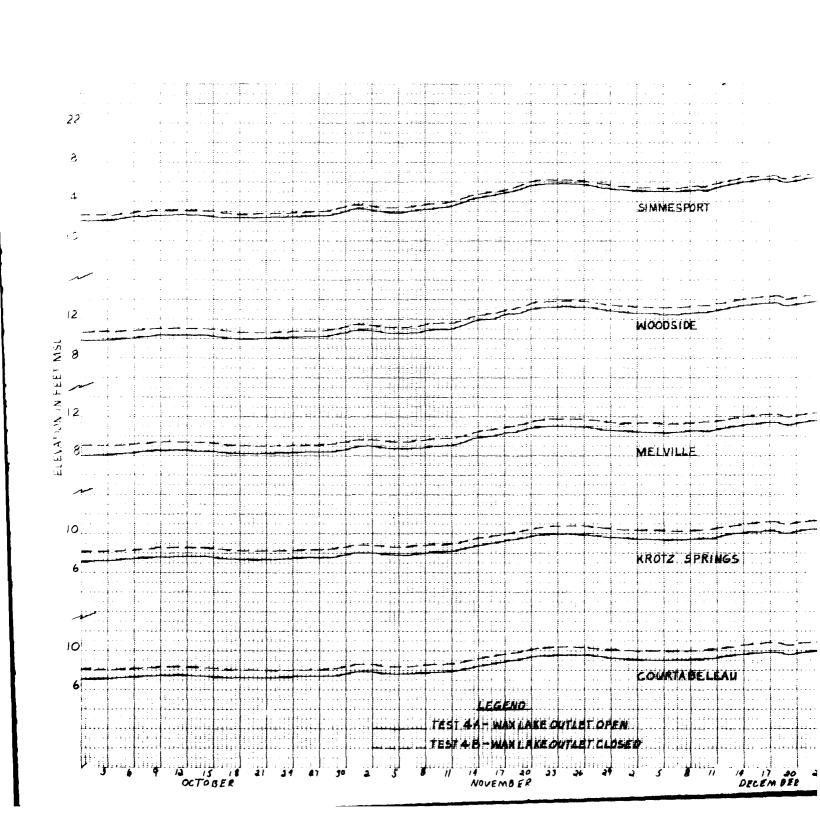
EST SA - WAX LAKE OUTLET OPEN

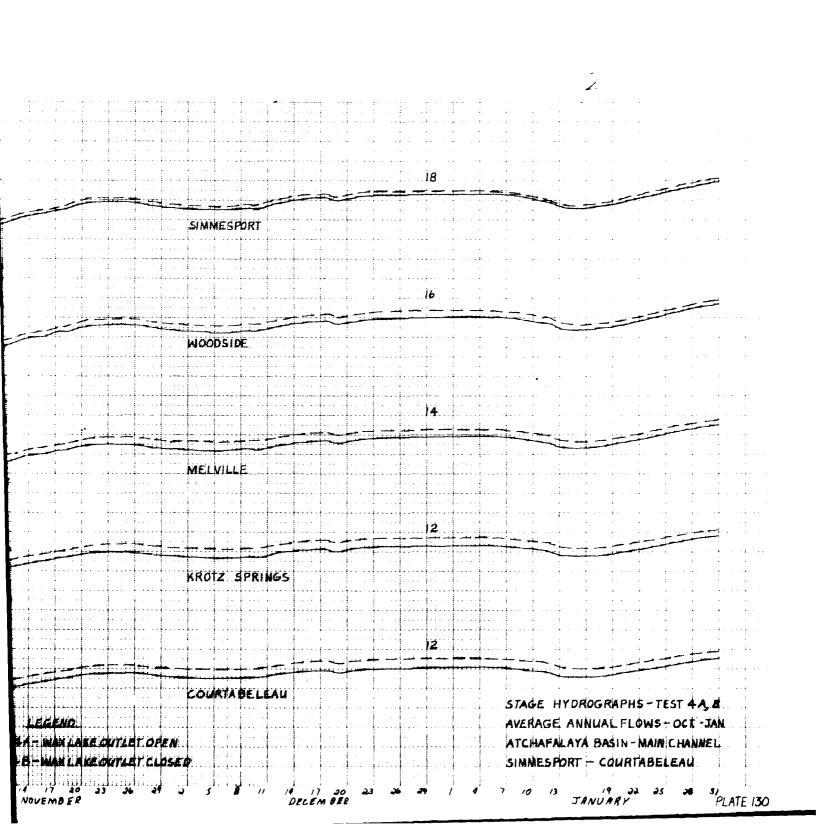
ST 38 - WAX LAKE OUTLET CLOSED

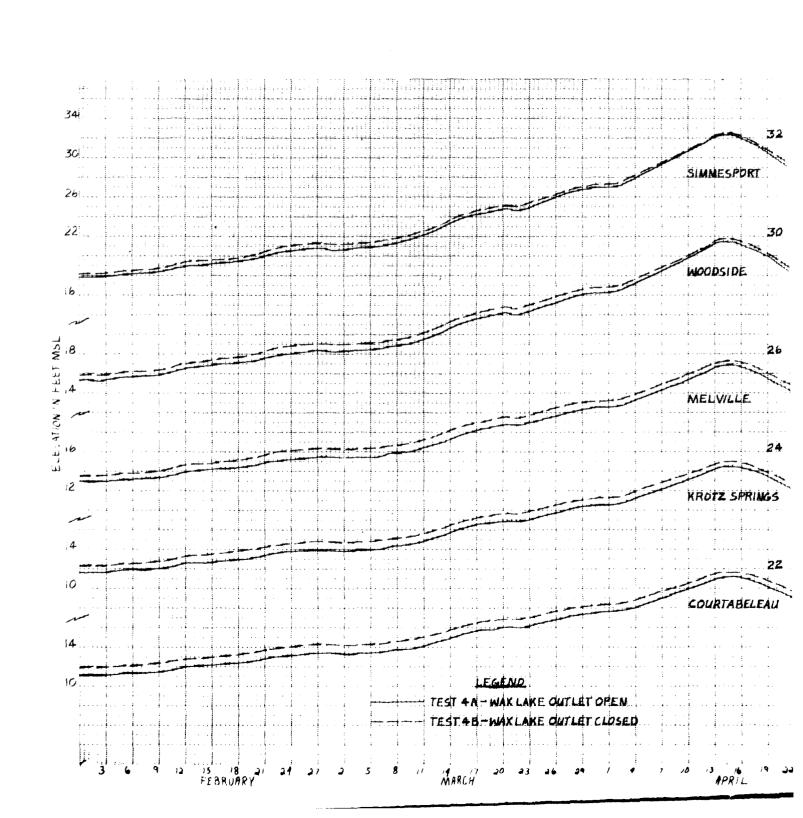
PLATE 129

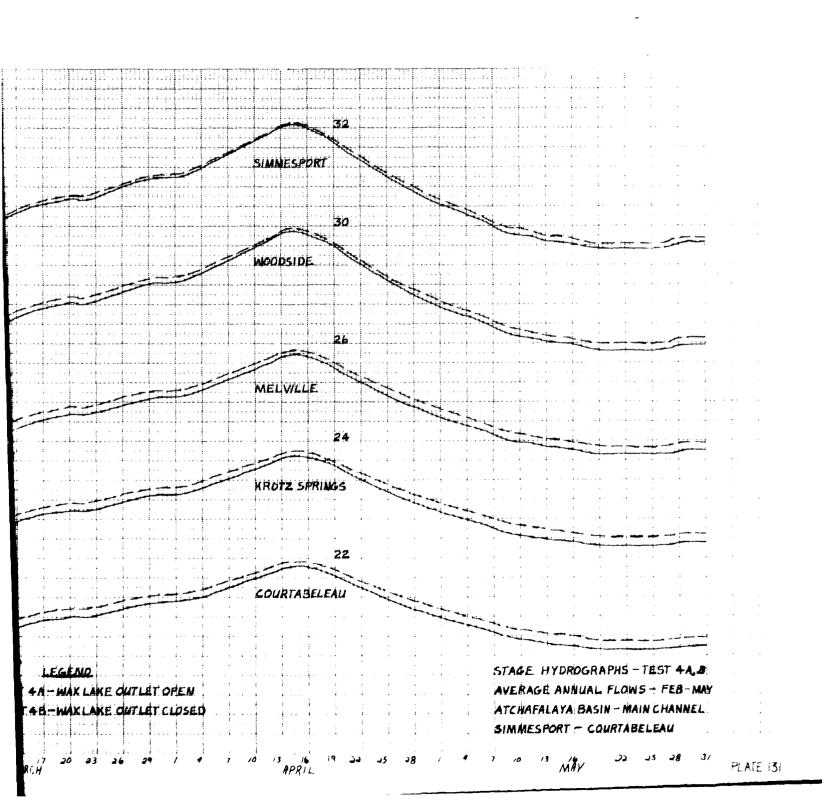
AVERAGE ANNUAL FLOWS - OCT. - SEPT.

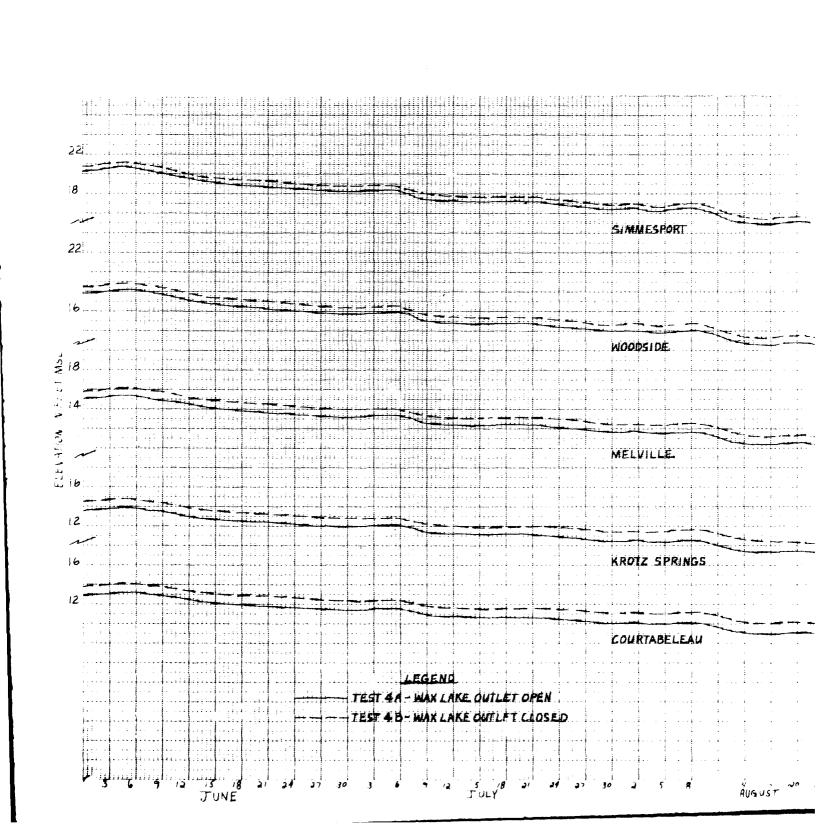
ATCHAFALRYA BAY EUGENE ISLAND, LA

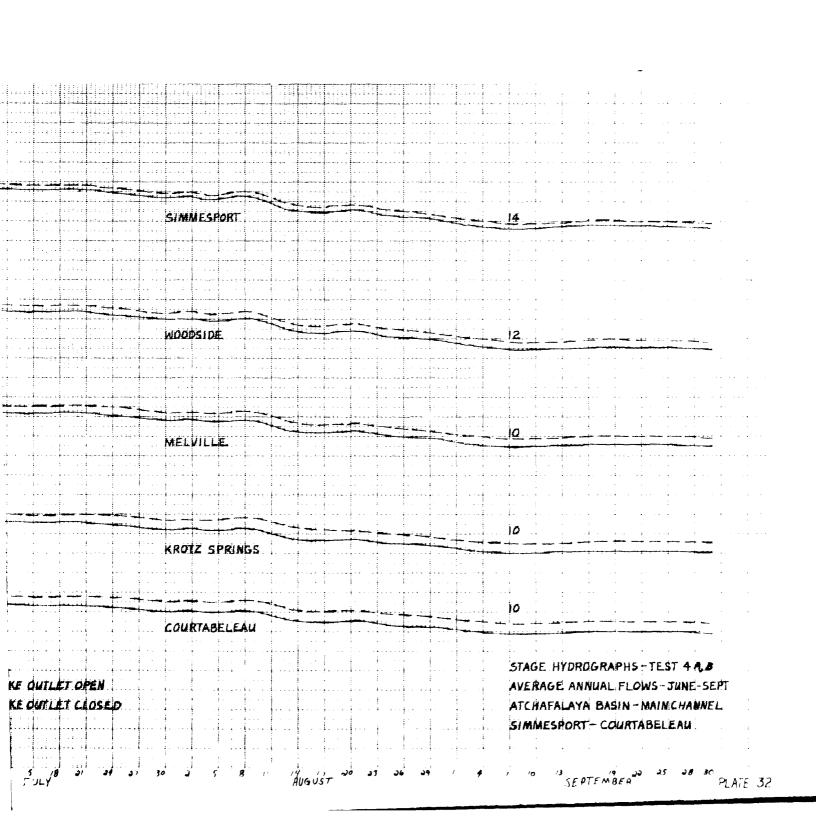


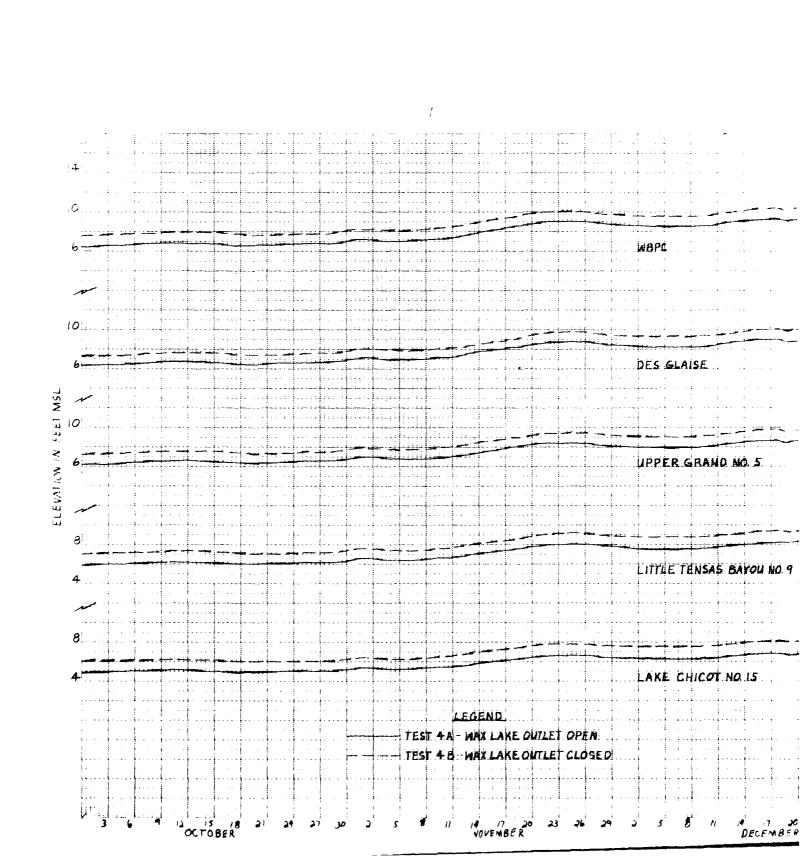


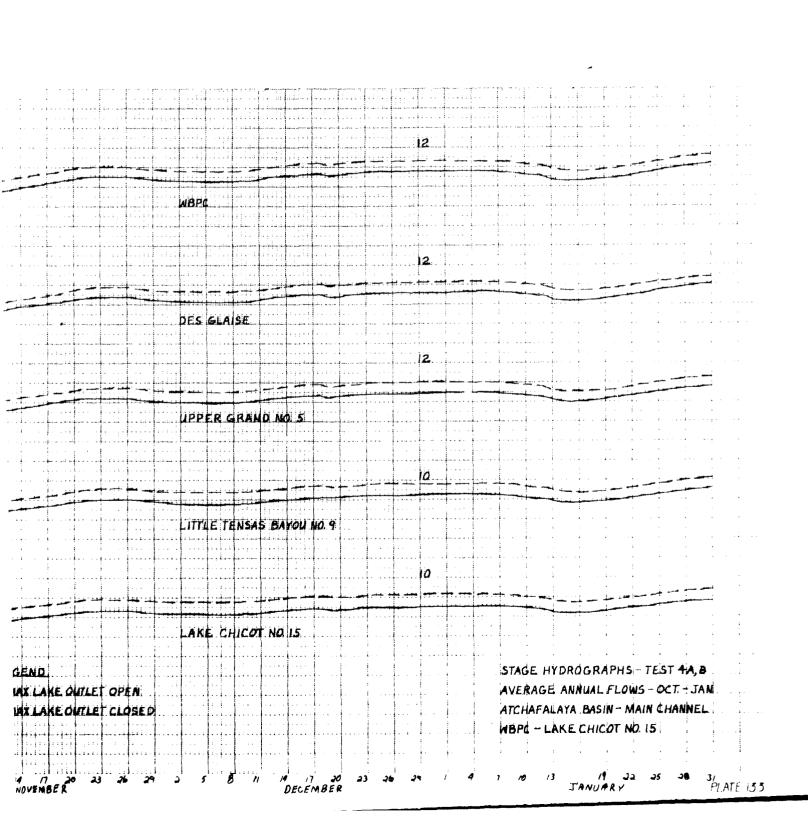


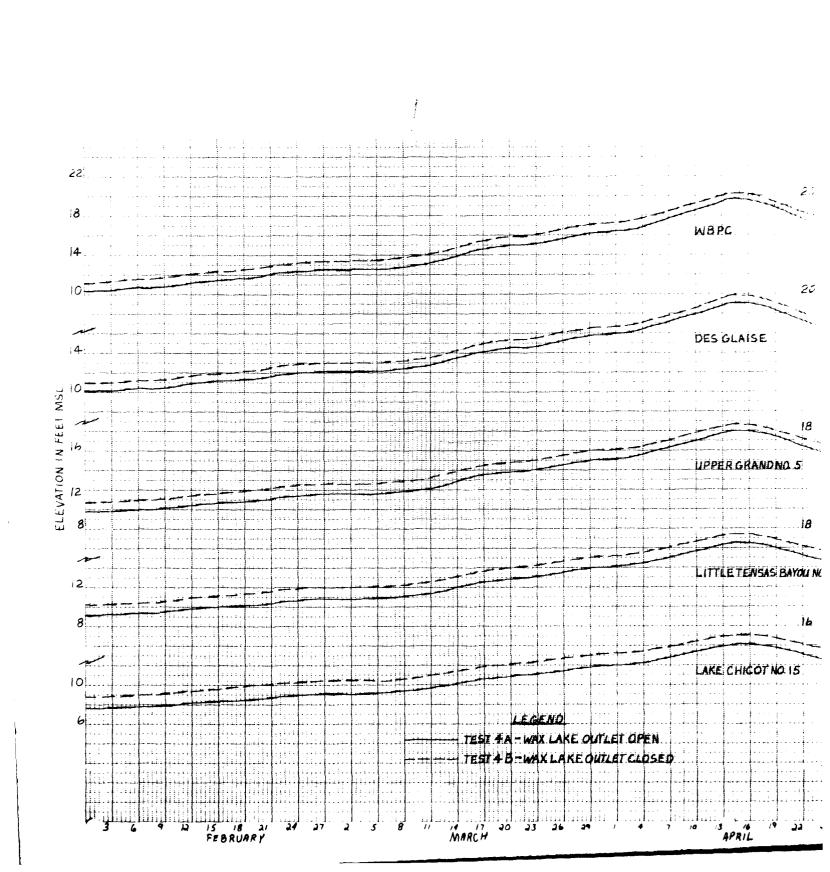


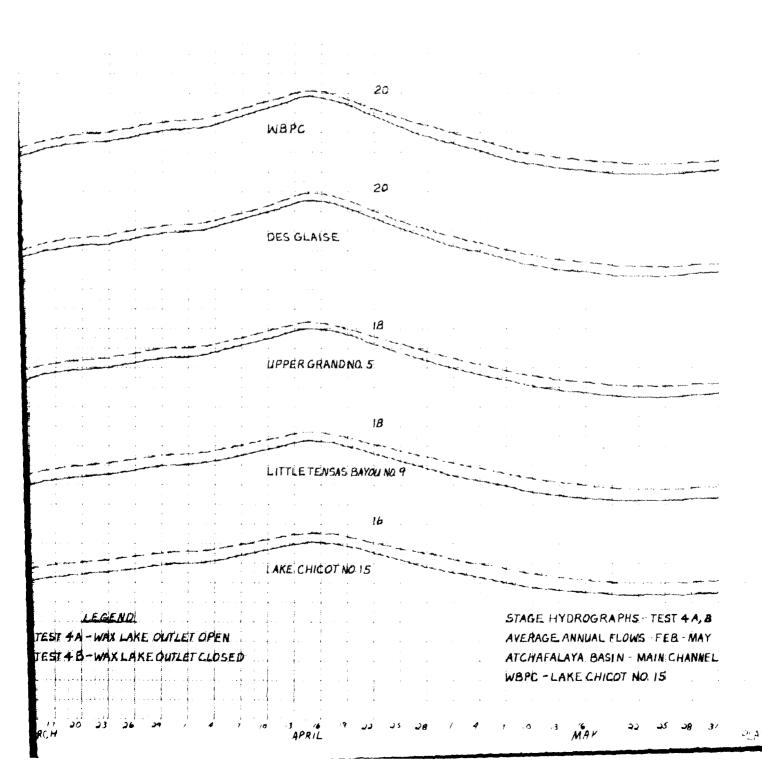


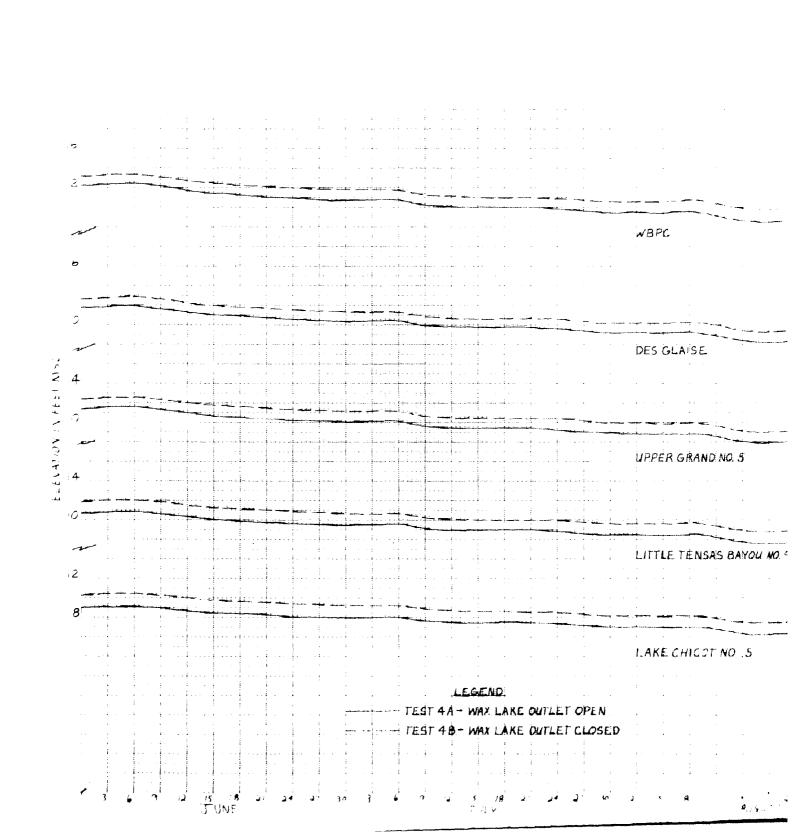






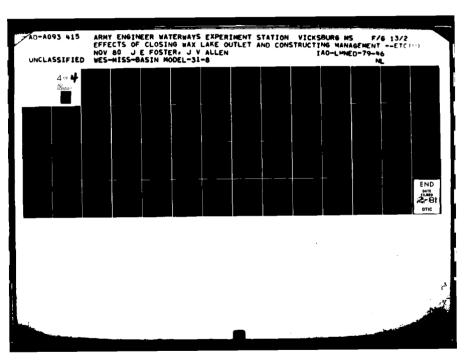




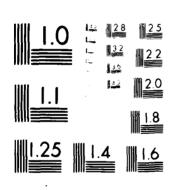


WBPC DES GLAISE UPPER GRAND NO. 5 . 10 LITTLE TÈNSAIS BAYOU MO. 9 LAKE CHICOT NO. 15 STAGE HYDROGRAPHS - 1EST 4A.8 4A - WAX LAKE OUTLET OPEN AVERAGE ANNUAL FLOWS JUNE SEET 48- WAX LAKE OUTLET CLOSED ATCHAFALAYA BASIN MAINTHIANNEL

WBPC - LAKE CHICOT NO 15

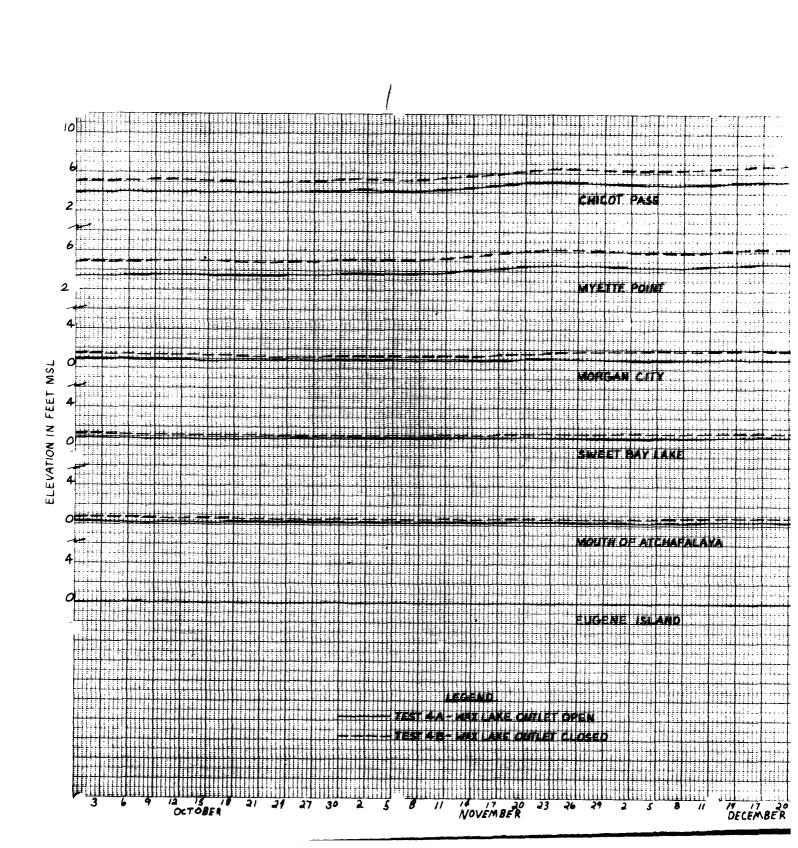


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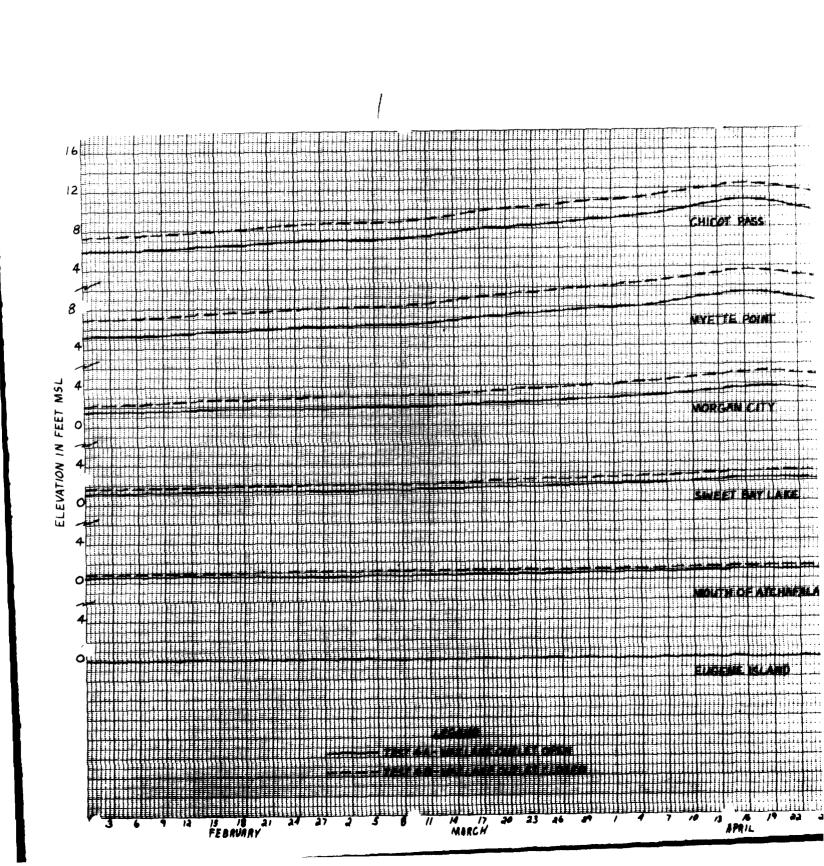


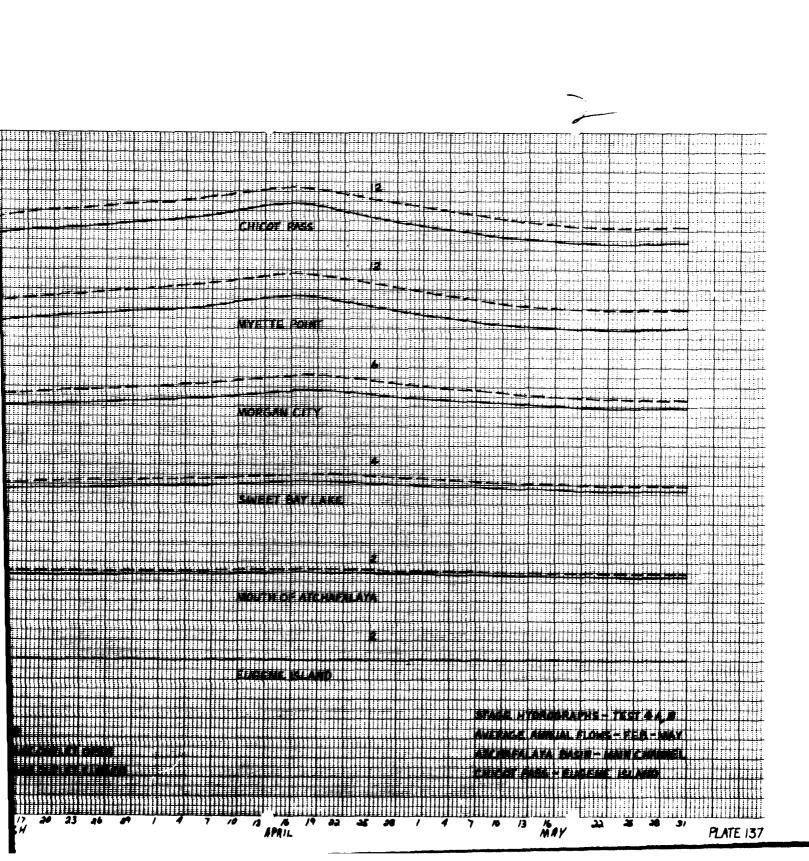
MICROCOPY RESOLUTION TEST CHART

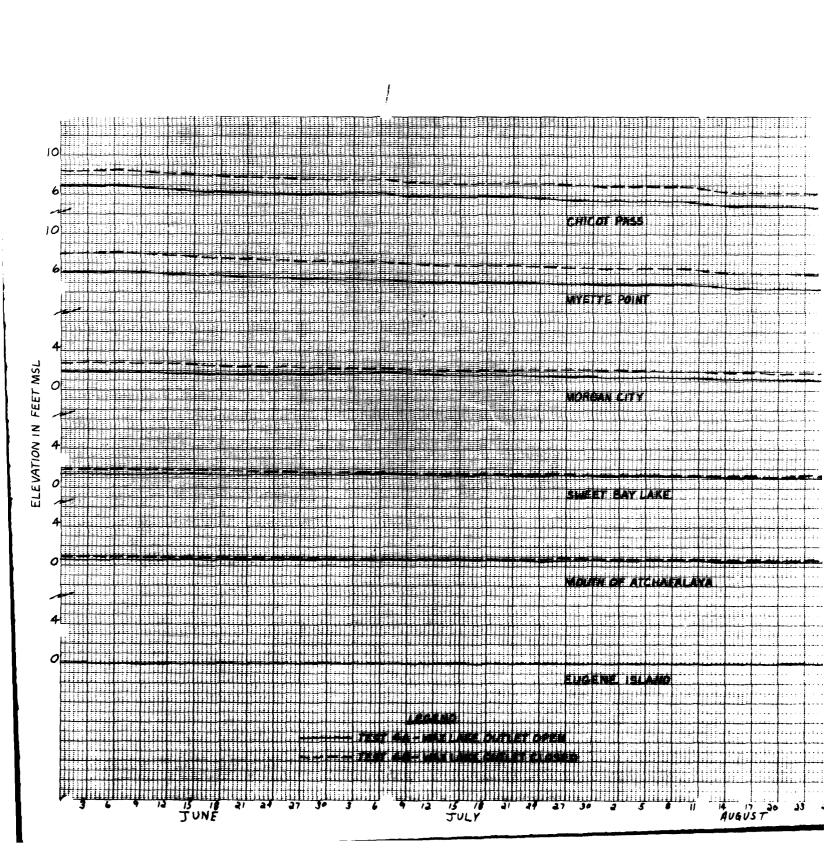
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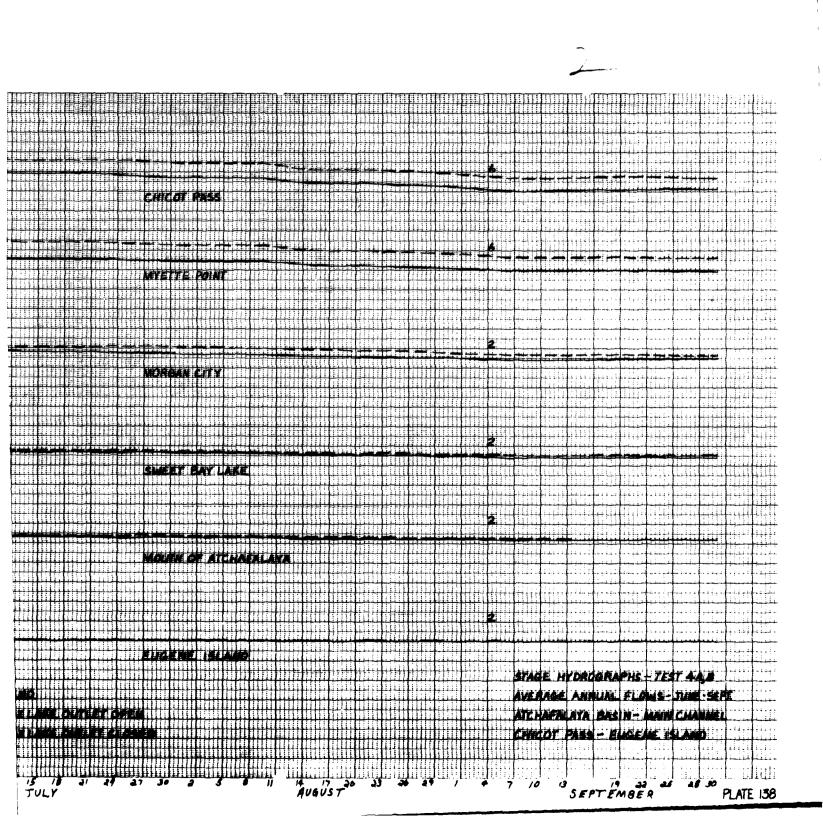


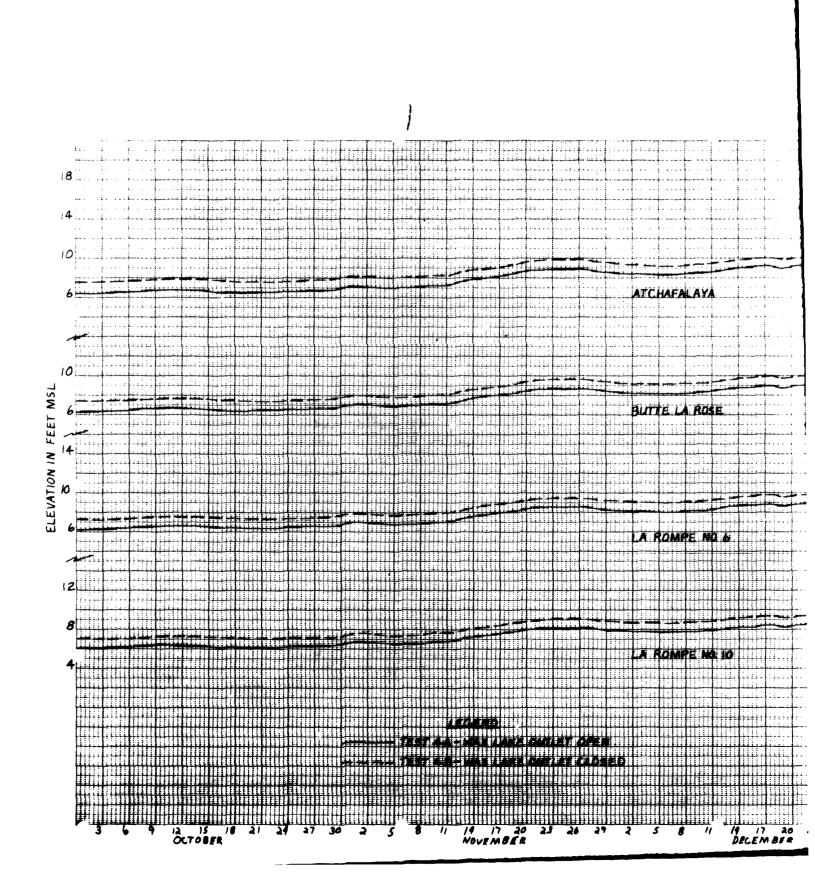
DECEMBER JANUARY PLATE 136

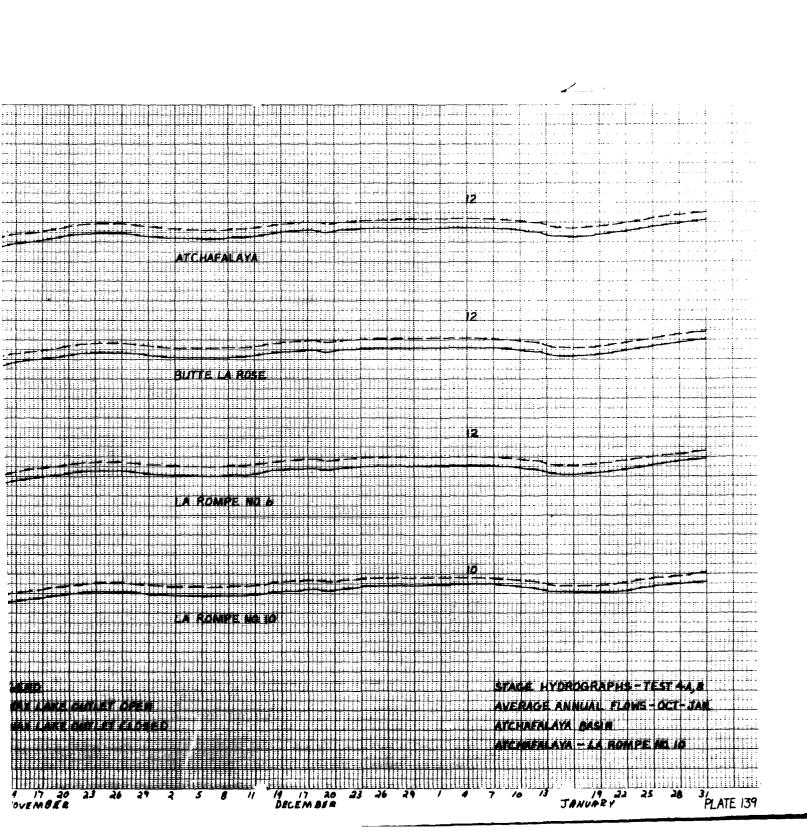


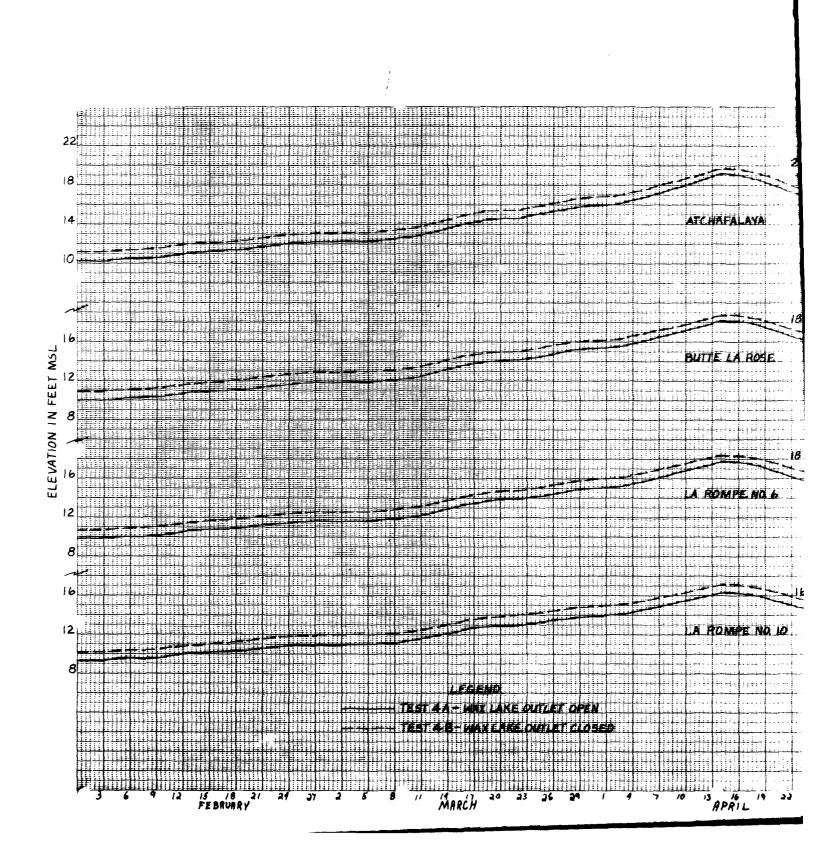


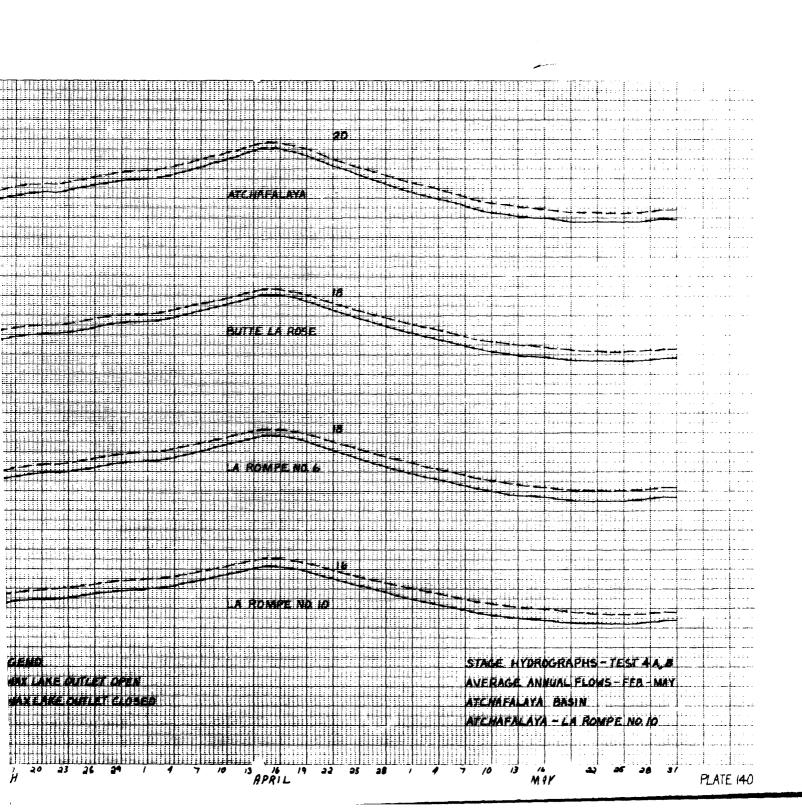


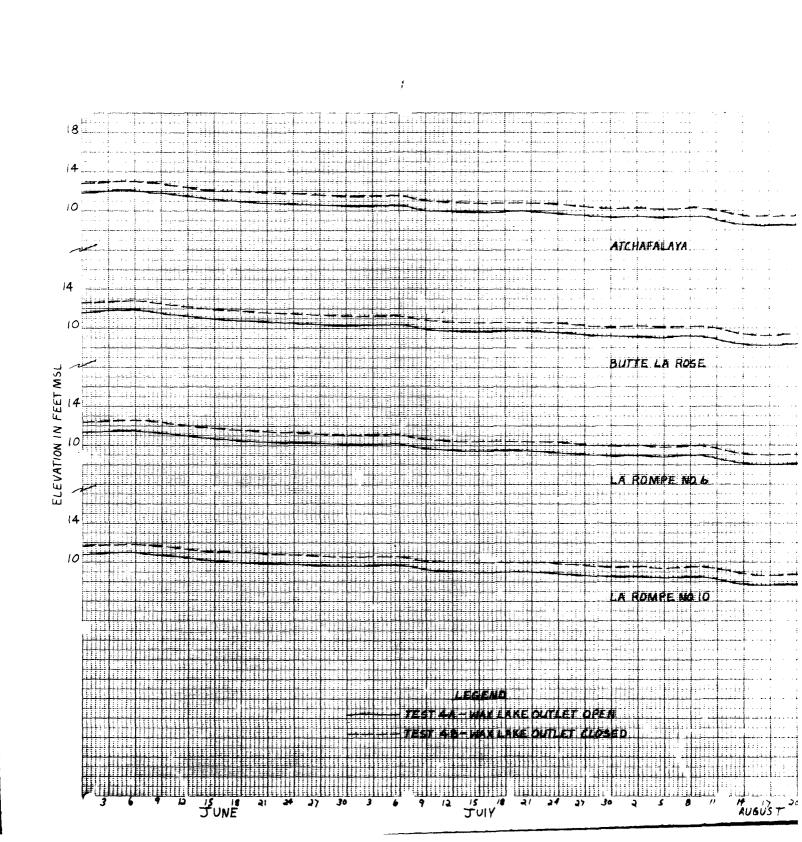


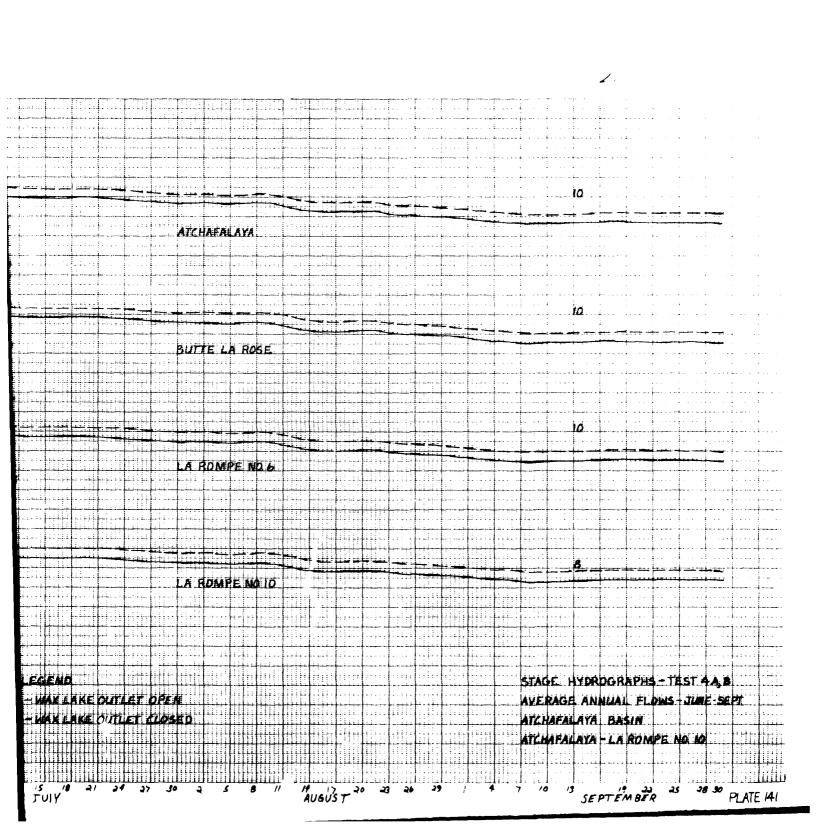


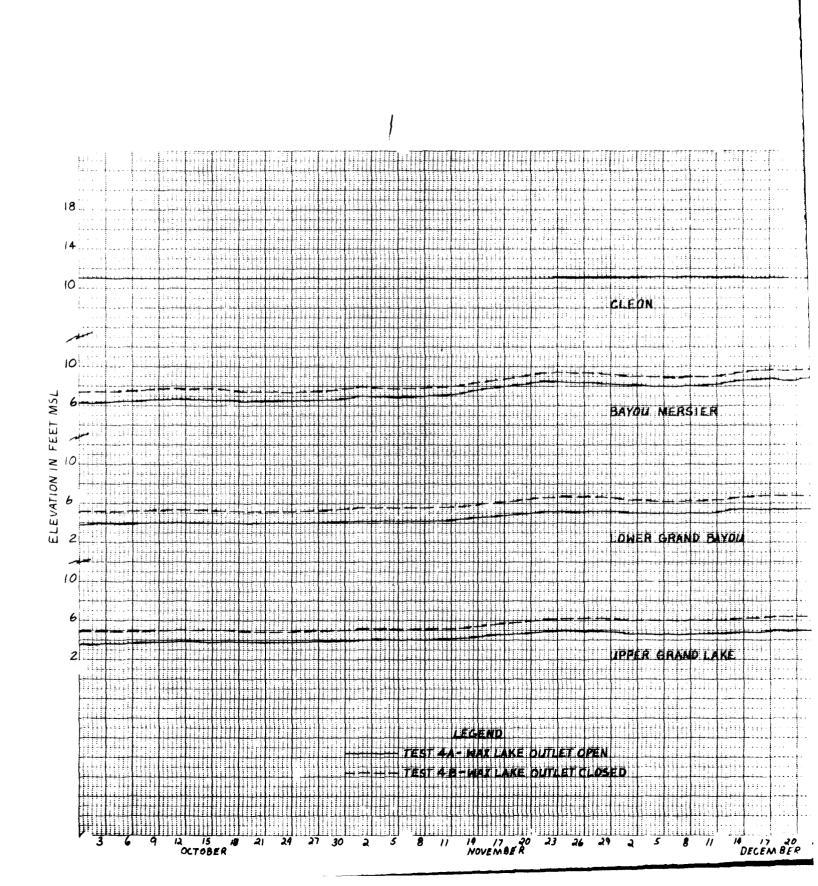


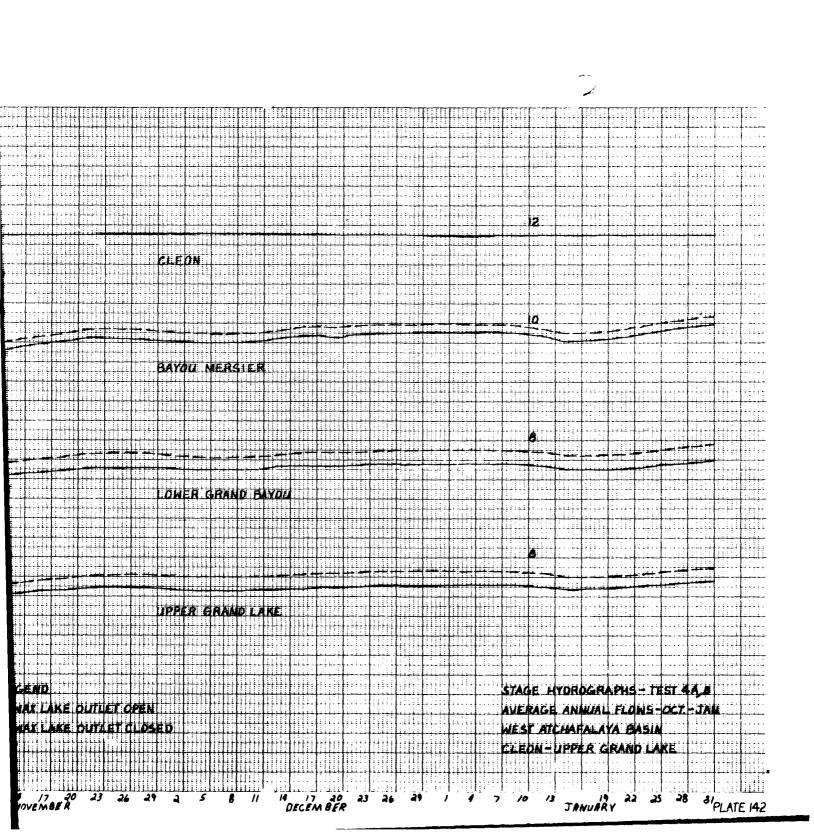


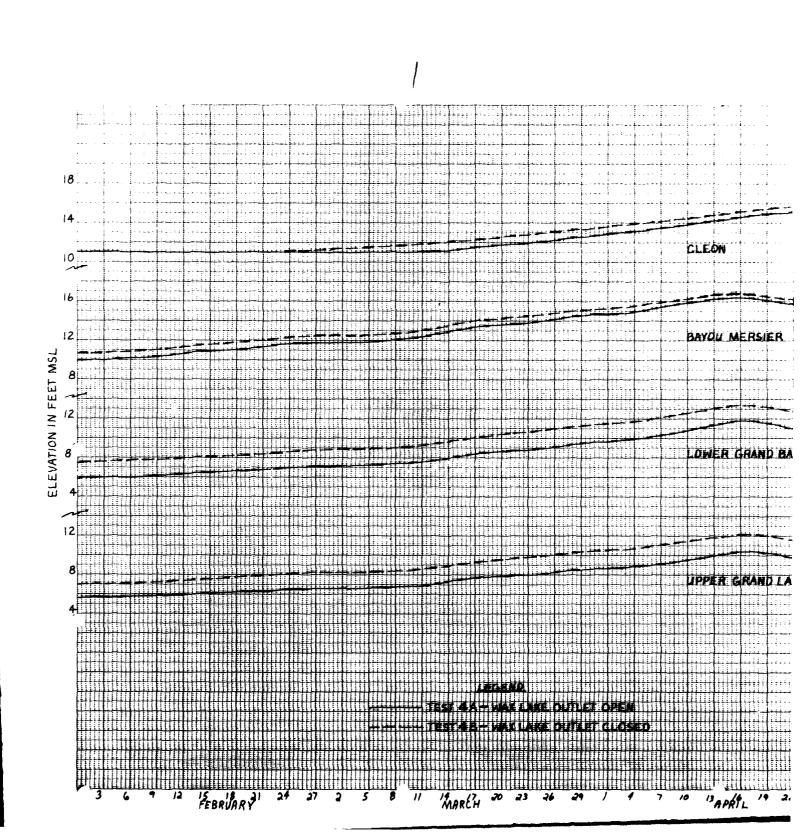


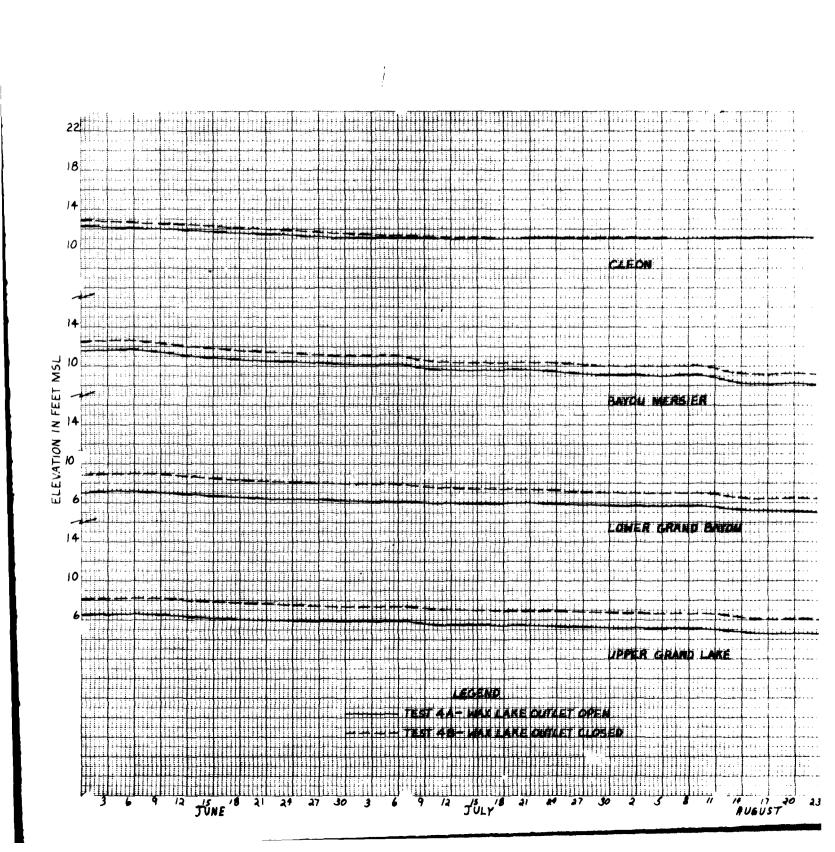


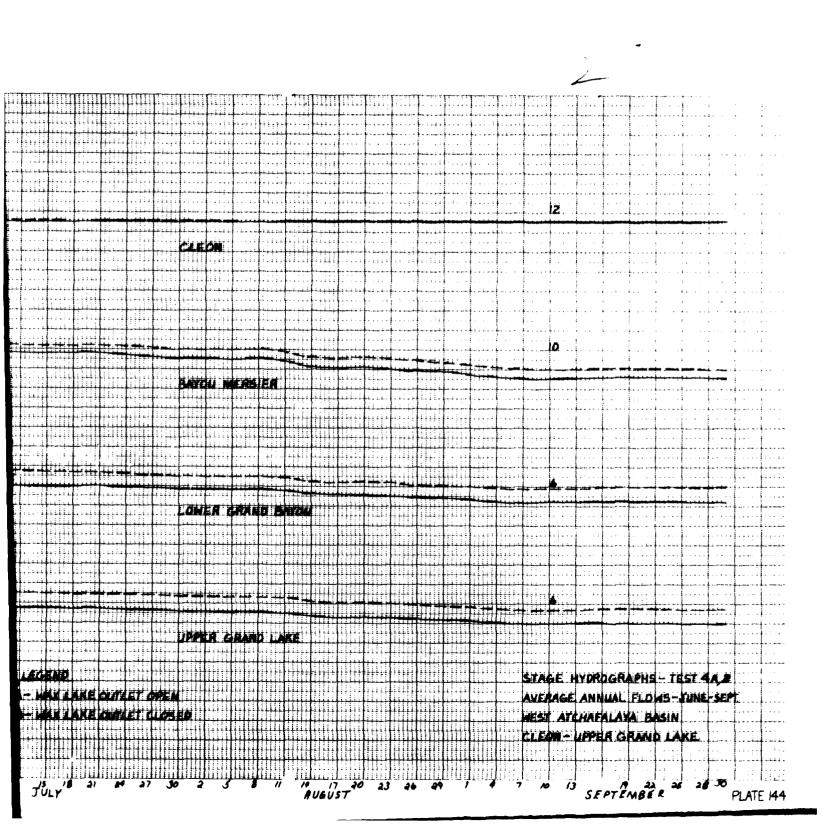


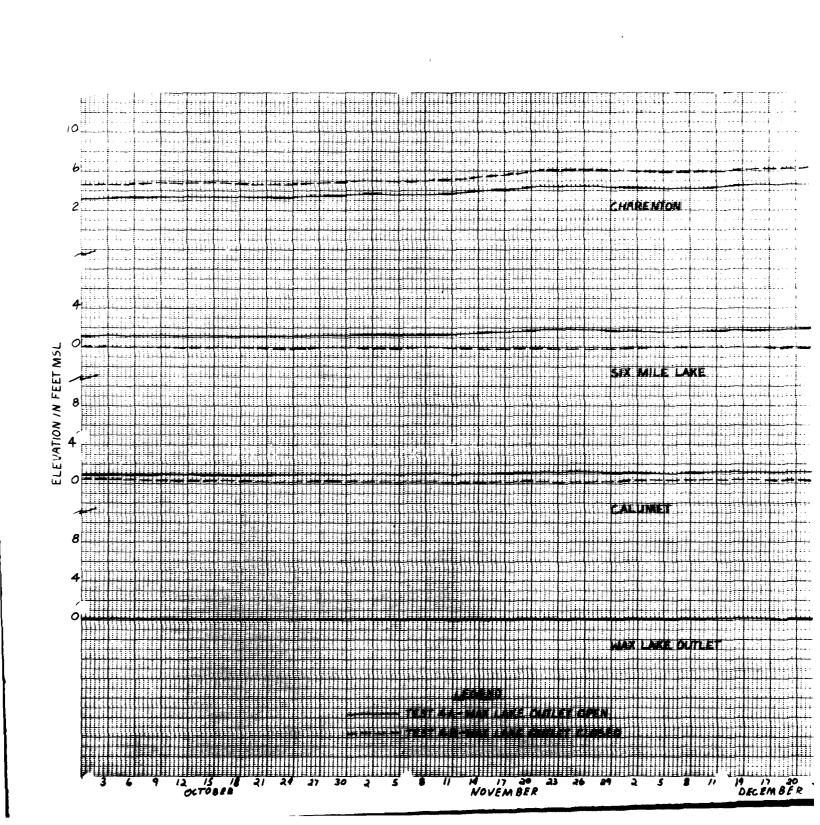


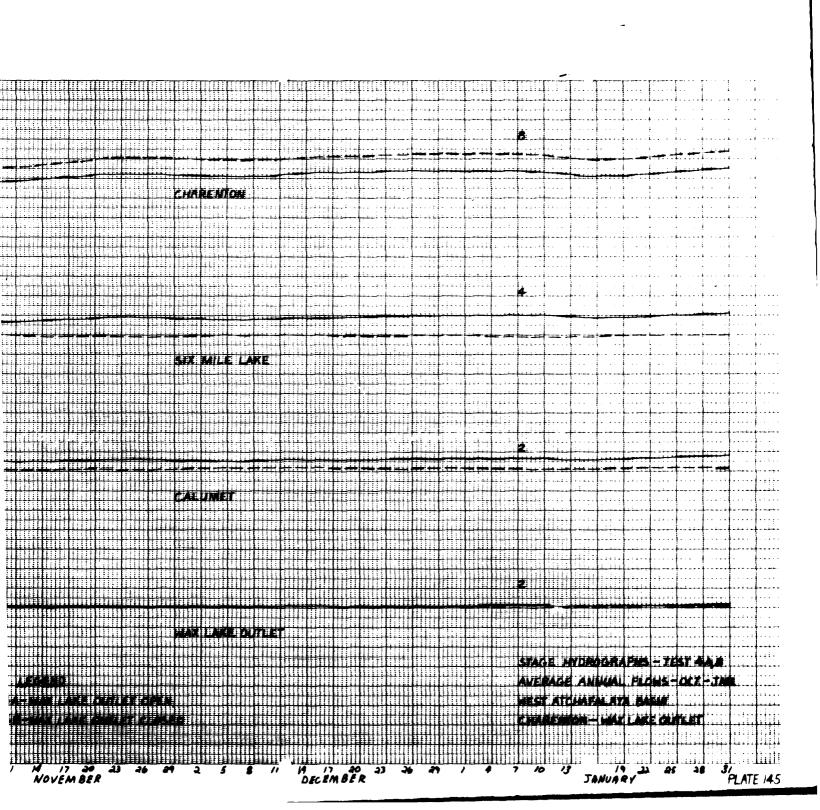


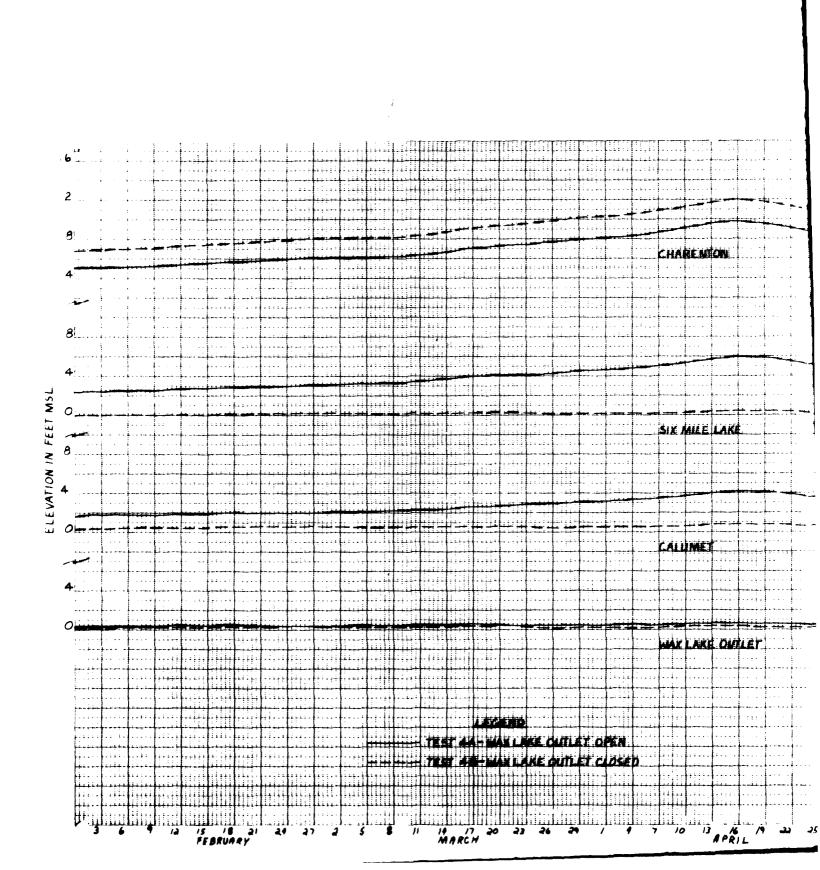




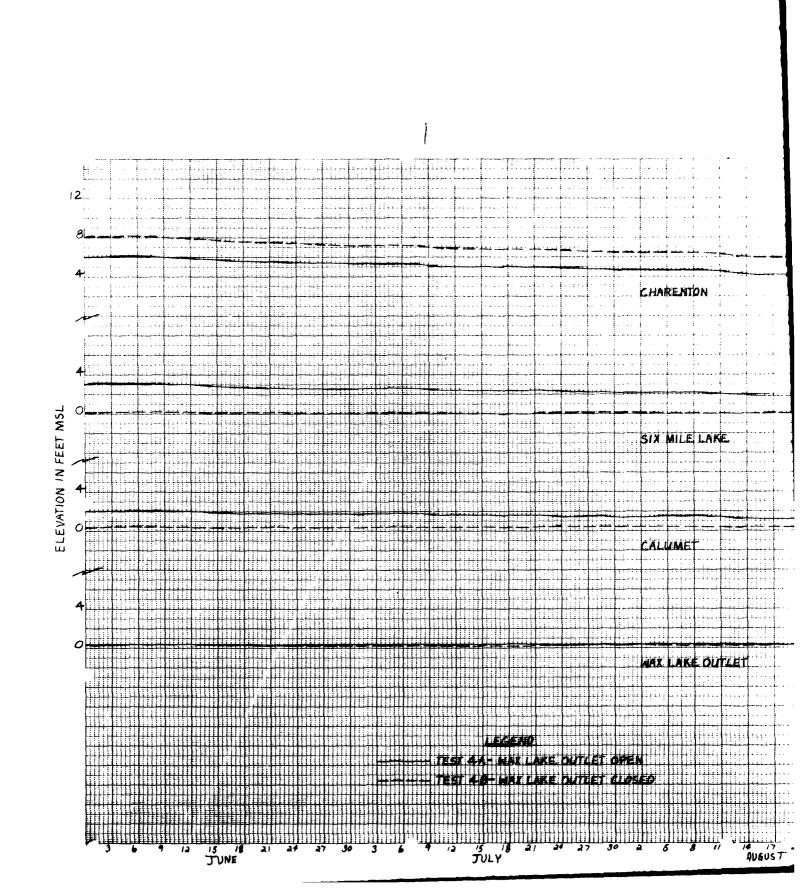


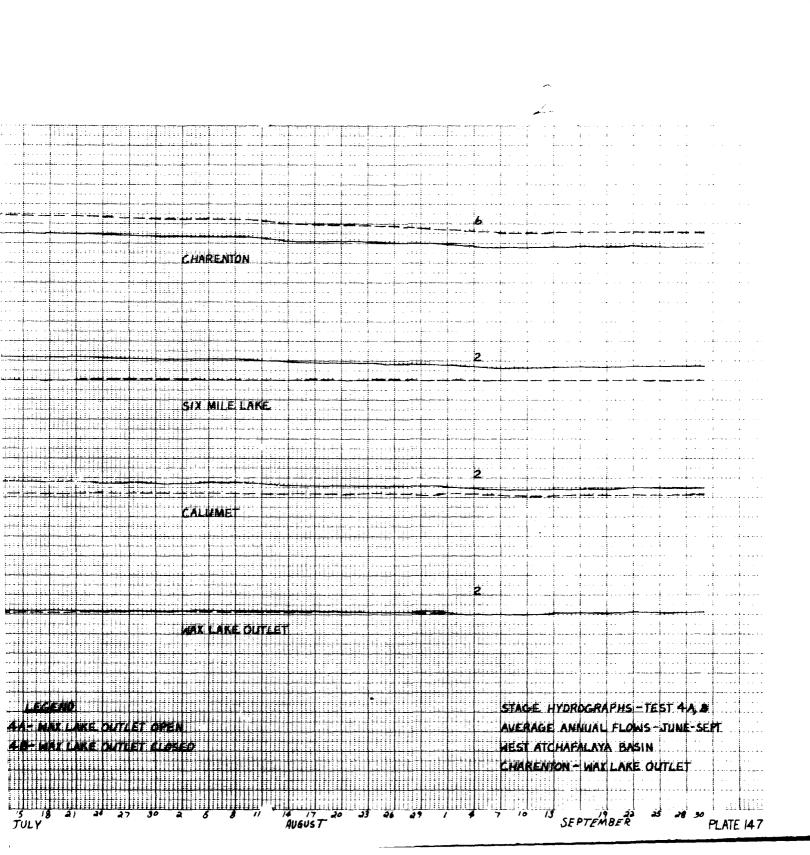


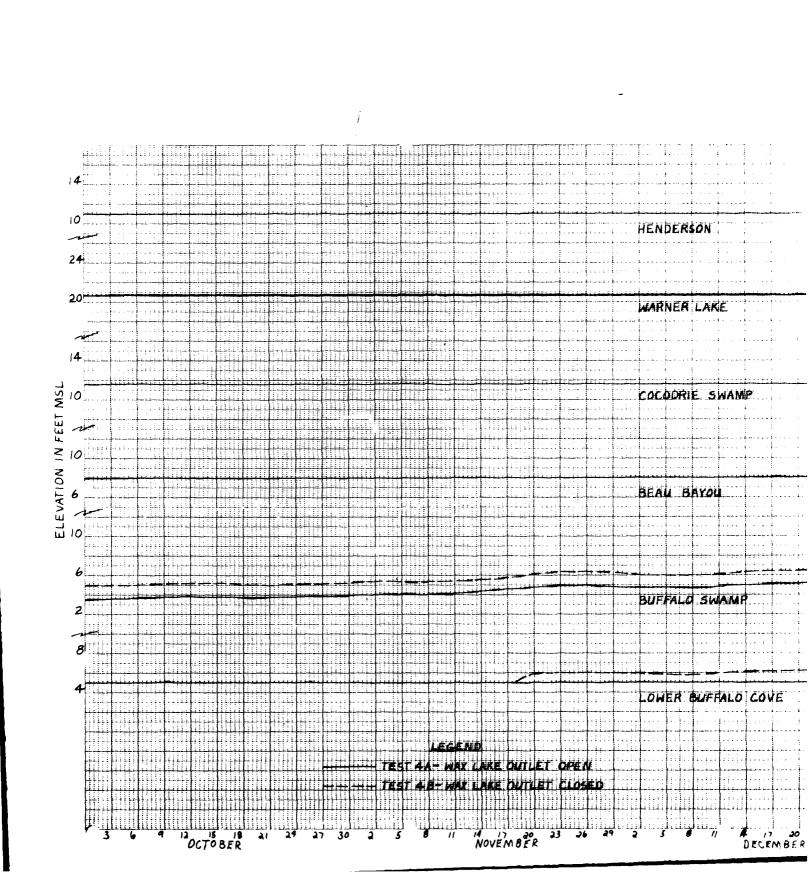




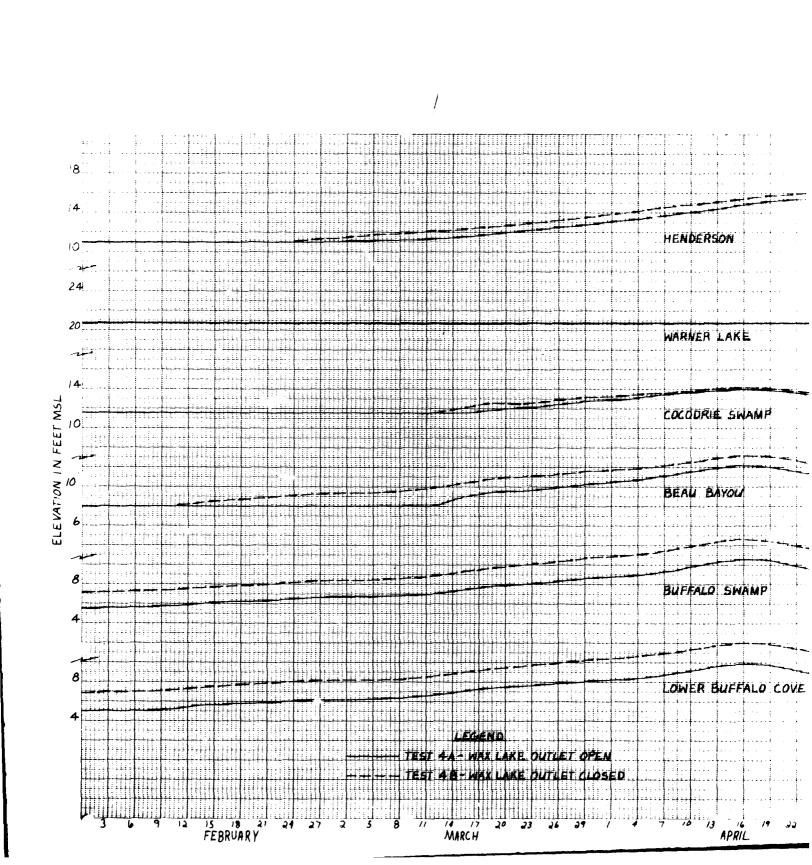
4.1111 STAGE HYDROGRAPHS TEST 4A.B. CHARENTON - WAX LAKE OUTLET 35 37 37 144 13 APRIL PLATE 146

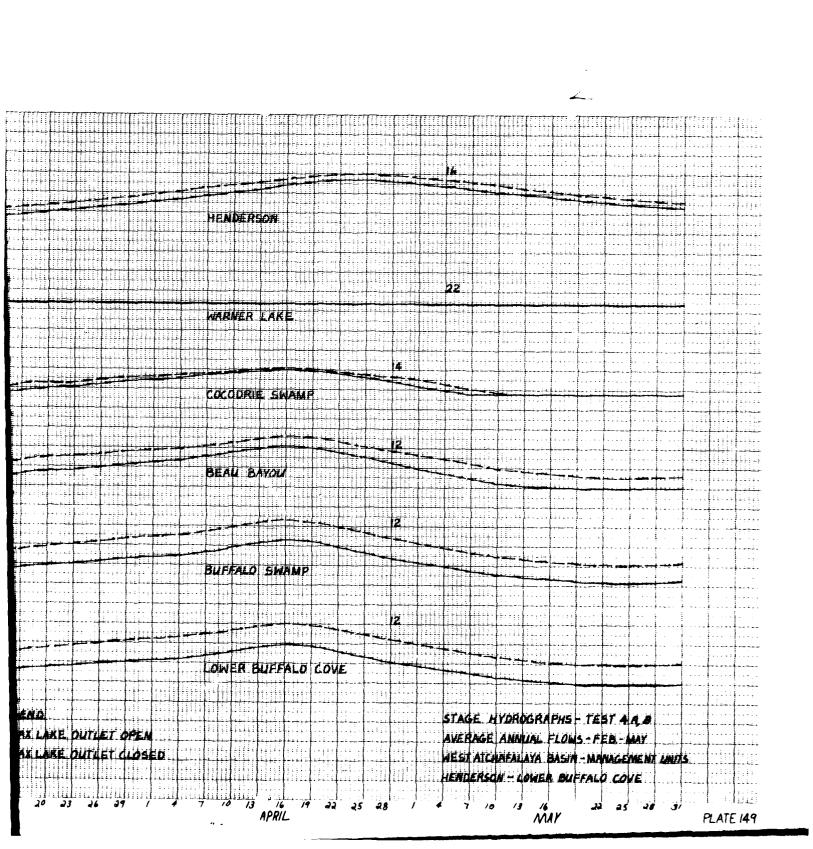


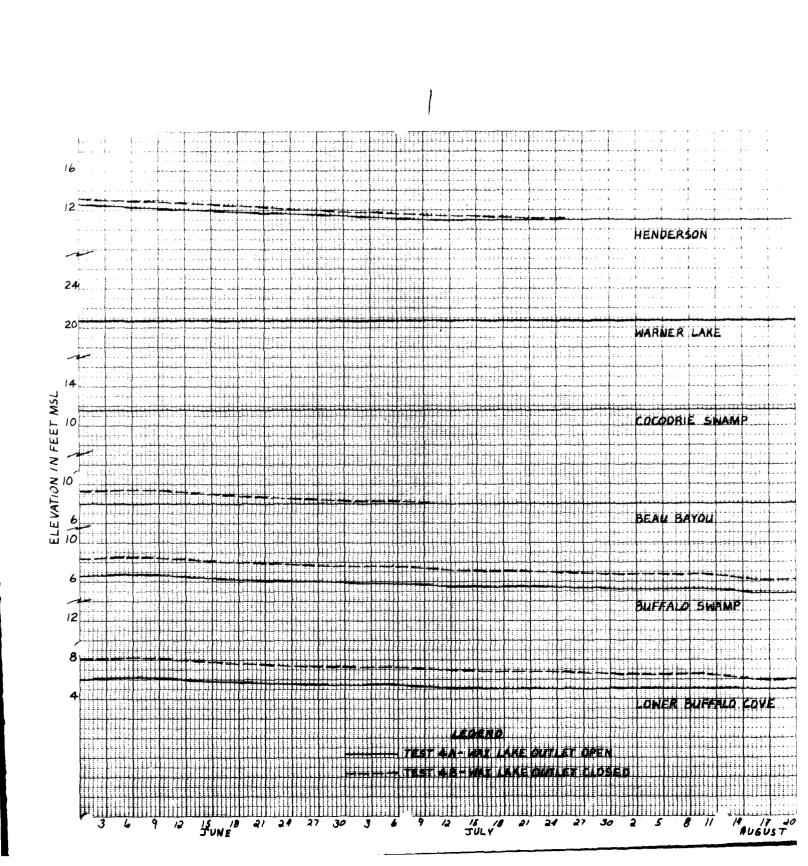




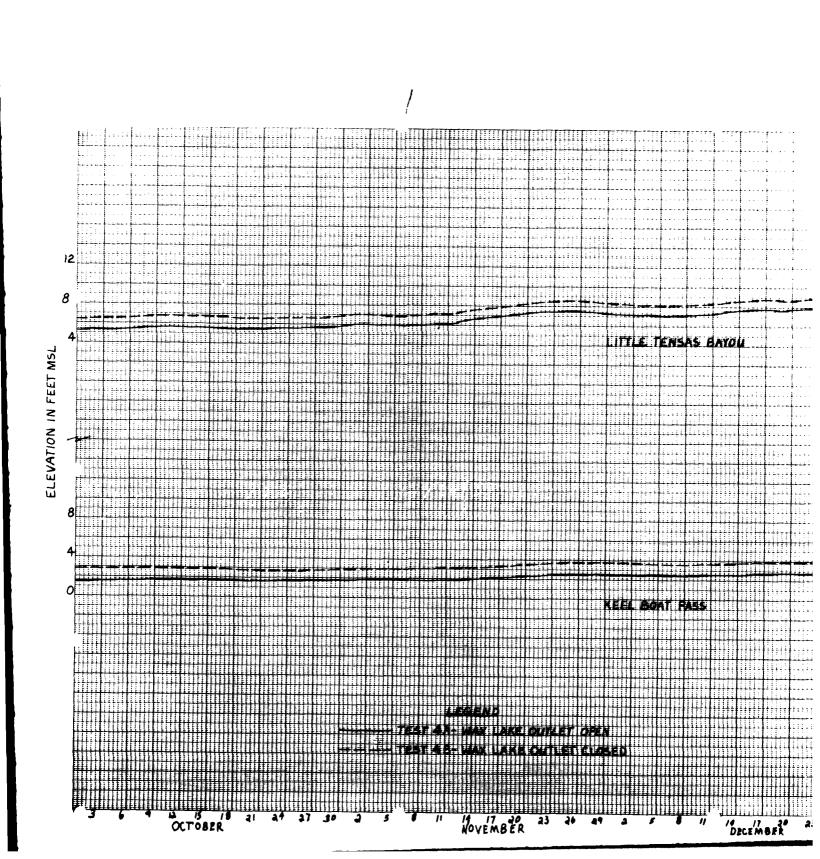
HENDERSON. MARNER LAKE COCODRIE SWAMP BUFFALO SWAMP LOWER BUFFALO COVE STAGE HYDROGRAPHS -TEST 4 A, & AVERAGE ANNUAL FLOWS - OCT JAN WEST ATCHAFALAYA BASIN-MANAGEMENT WHITS HENDERSON - LOWER BUFFALO COVE PLATE 148 DECEMBER

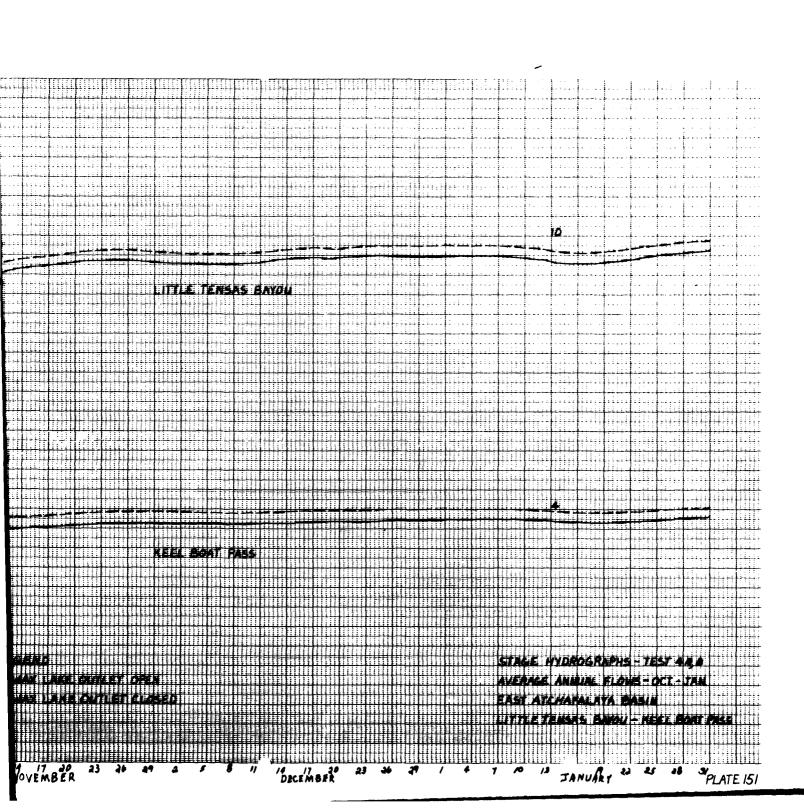


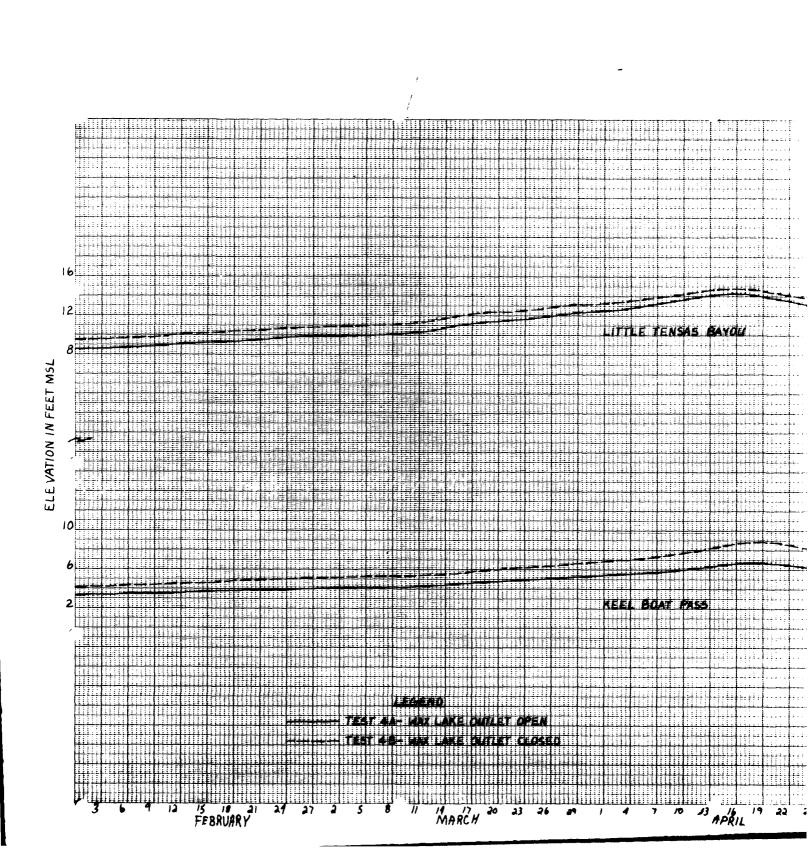


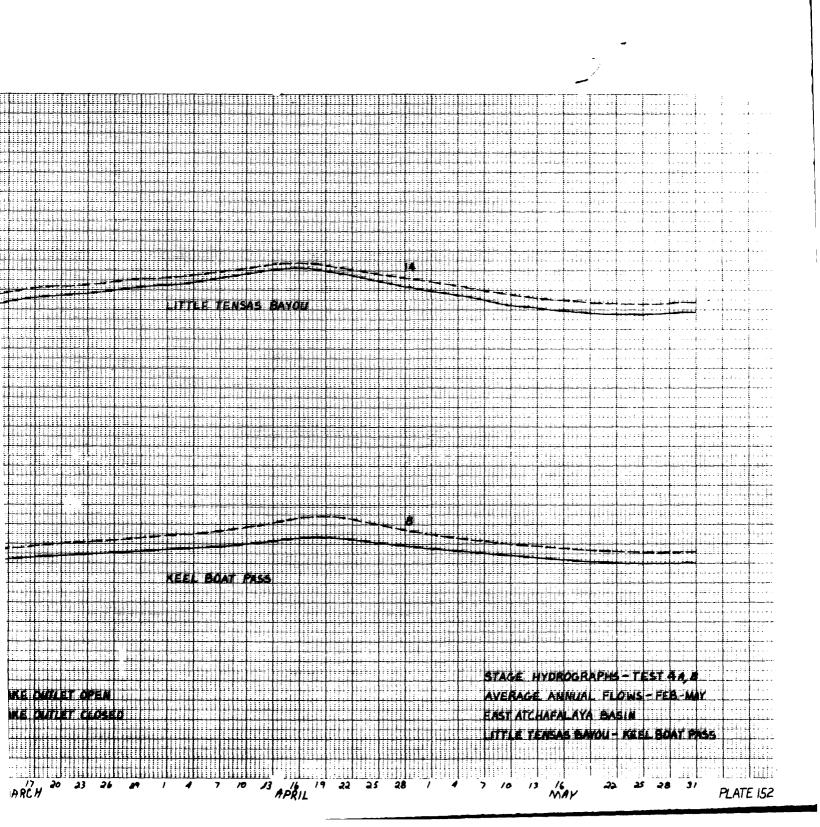


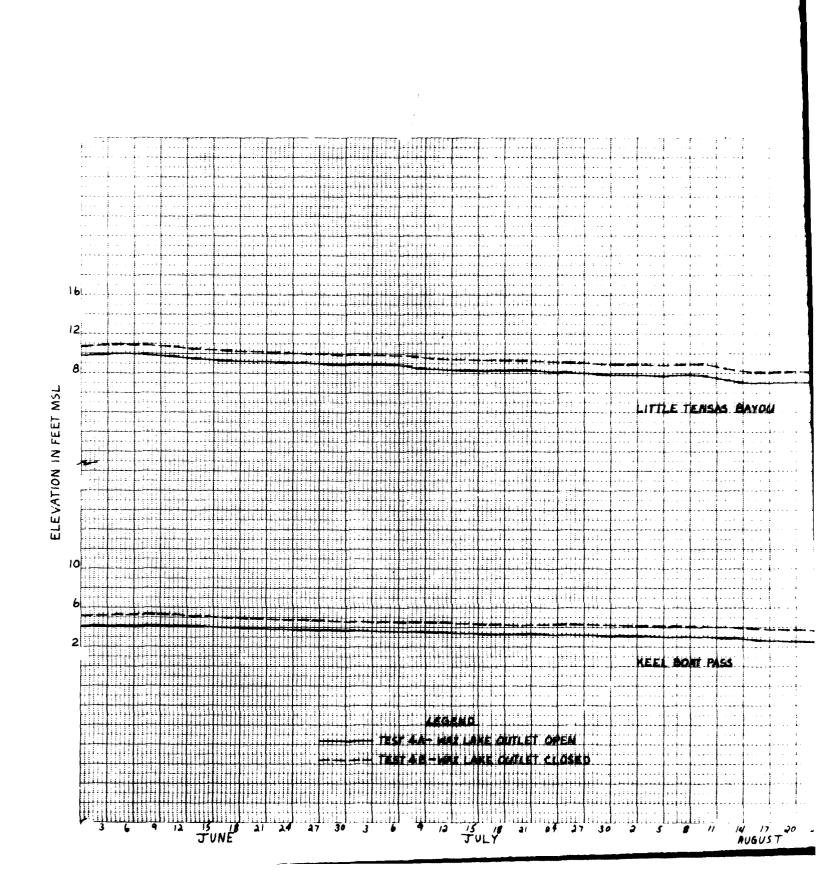
HENDERSON. WARNER LAKE COCODRIE SNAMP CHE LAME OUTLET OPEN 28 30 SEPTEMBER PLATE 150



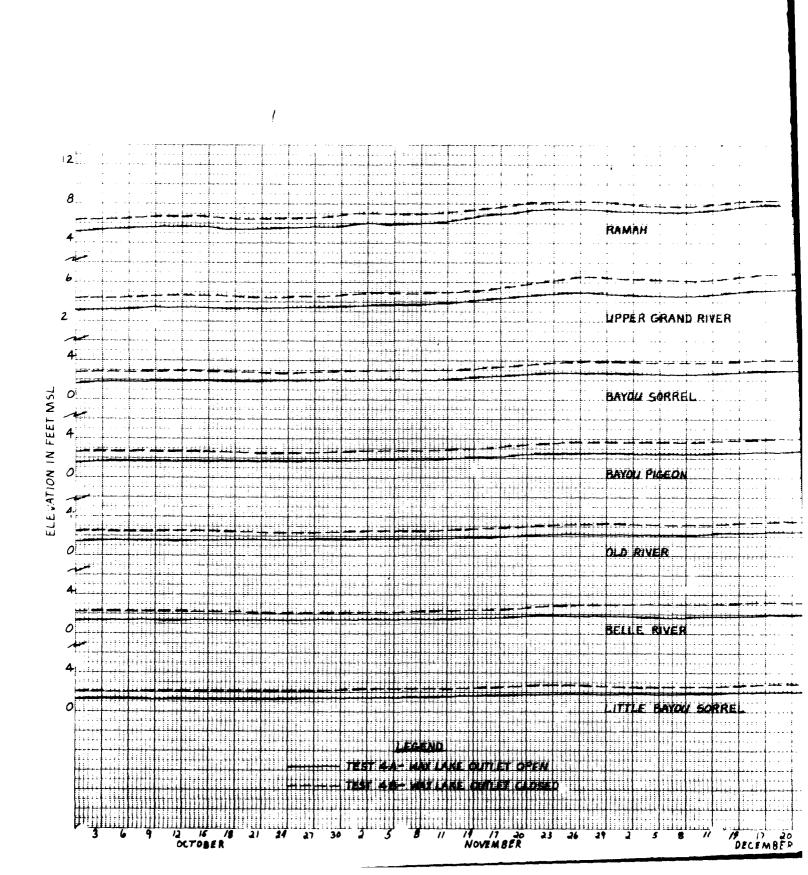




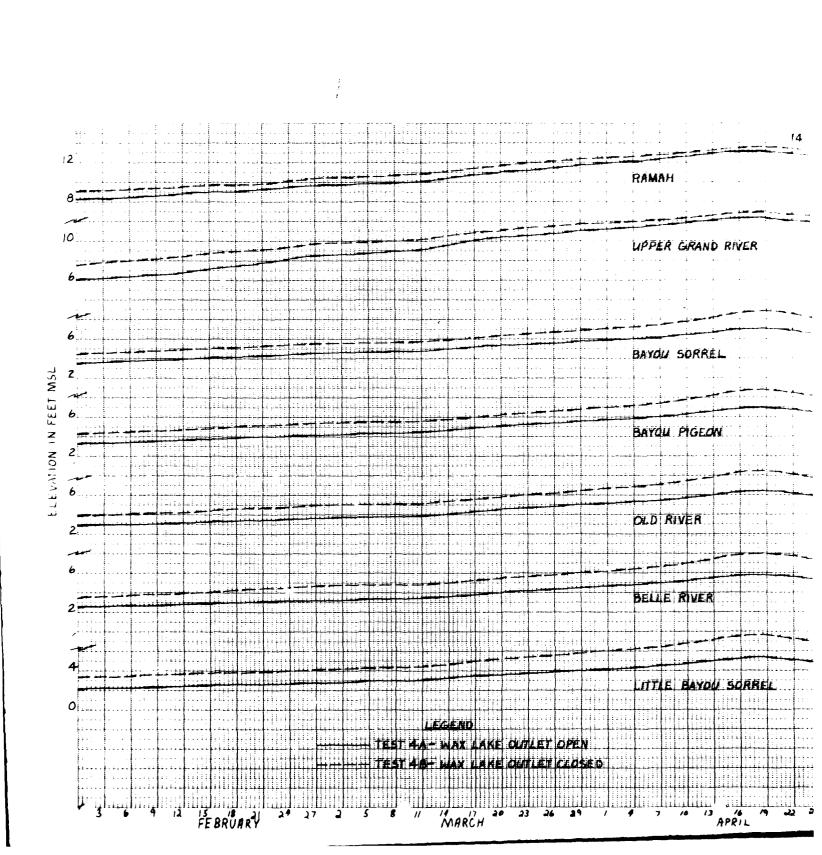


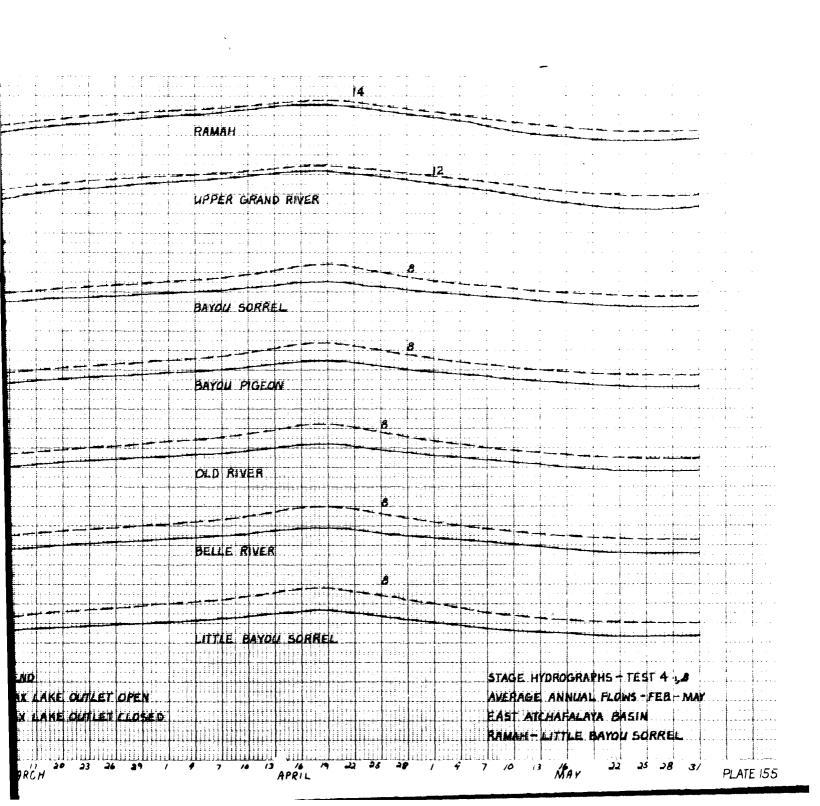


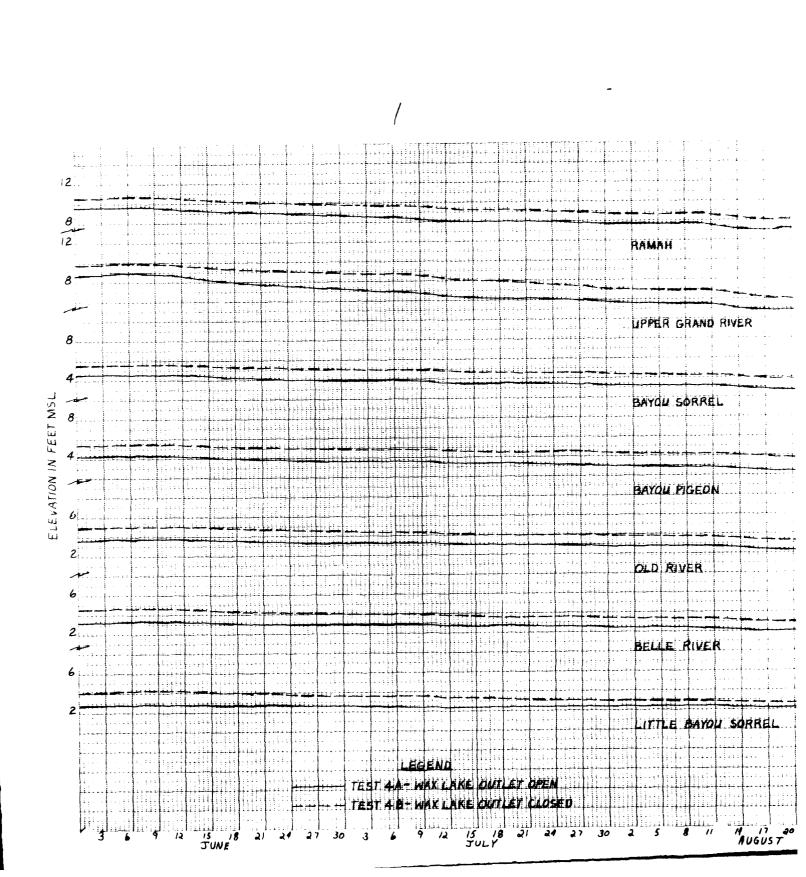
STAGE HYDROGRAPHS - TEST 4.4. AVERAGE ANNUAL FLOWS - JUNE-SEPT EAST ATCHAFALAYA BASIN LITTLE TENSAS BAYOU - KEEL BONT PASS 14 17 20 AUGUST SEPTEMBER 25 28 PLATE 153

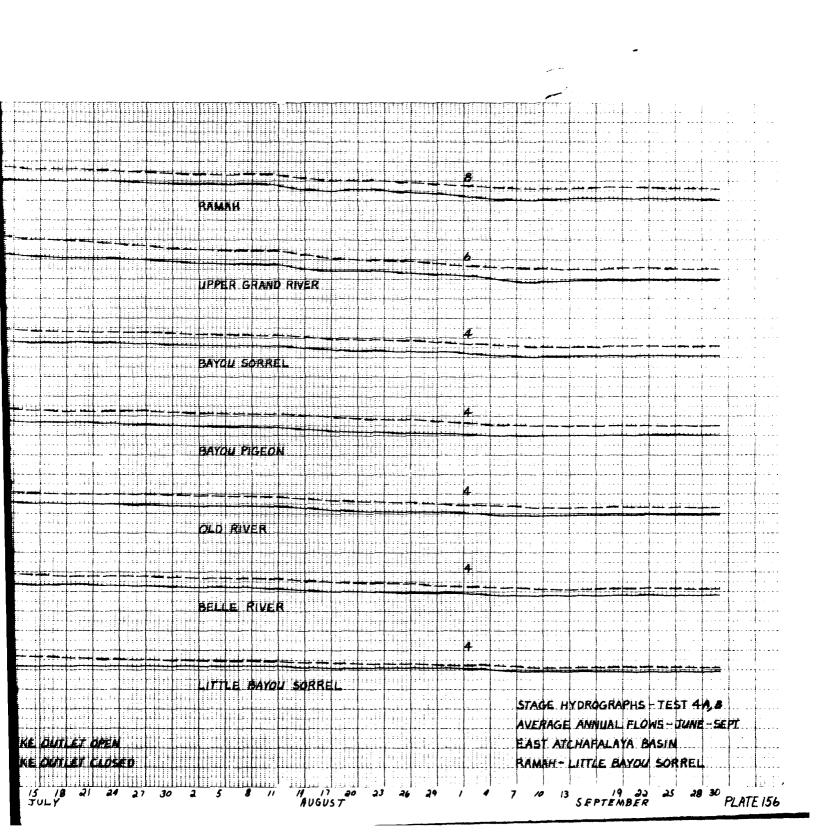


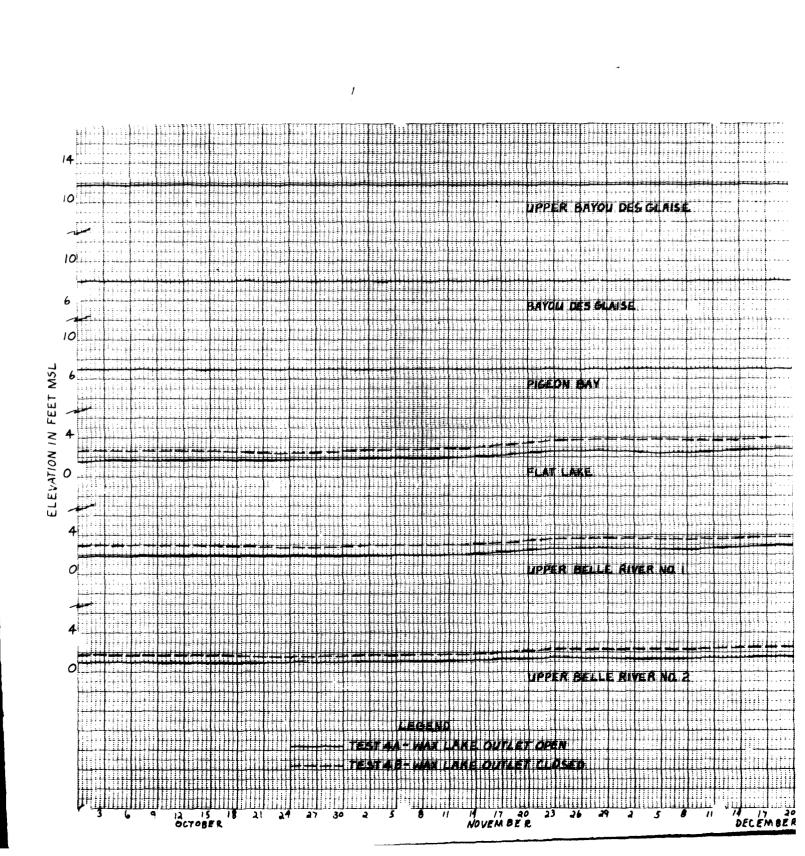
RAMAH 8 UPPER GRAND RIVER BAYOU SORREL BAYOU PIGEON OLD RIVER STAGE HYDROGRAPHS - TEST 44,8 AVERAGE ANNUAL FLOWS - OCT. - JAM. EAST ATCHAFALAYA BASIN RAMAH - LITTLE BAYOU SORREL PLATE 154 P 17 20 December



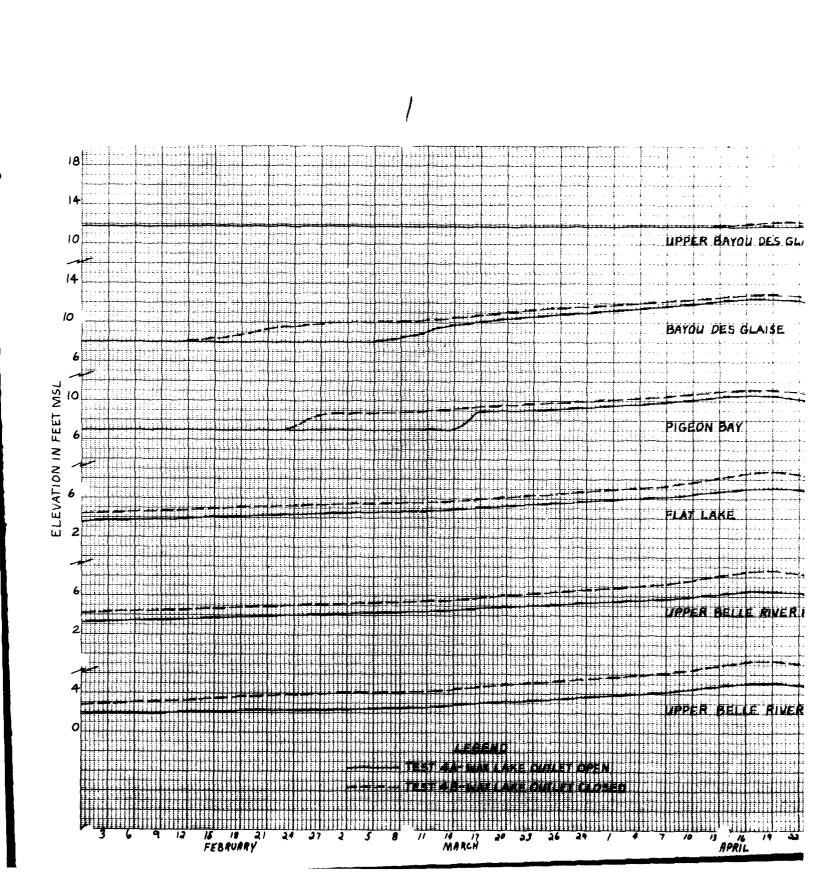


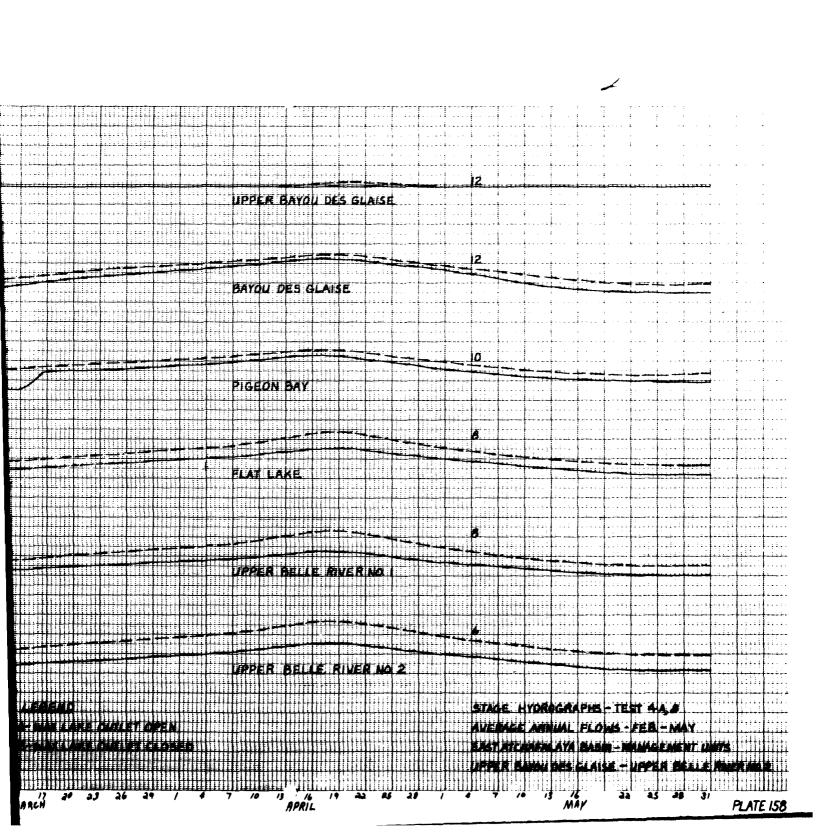


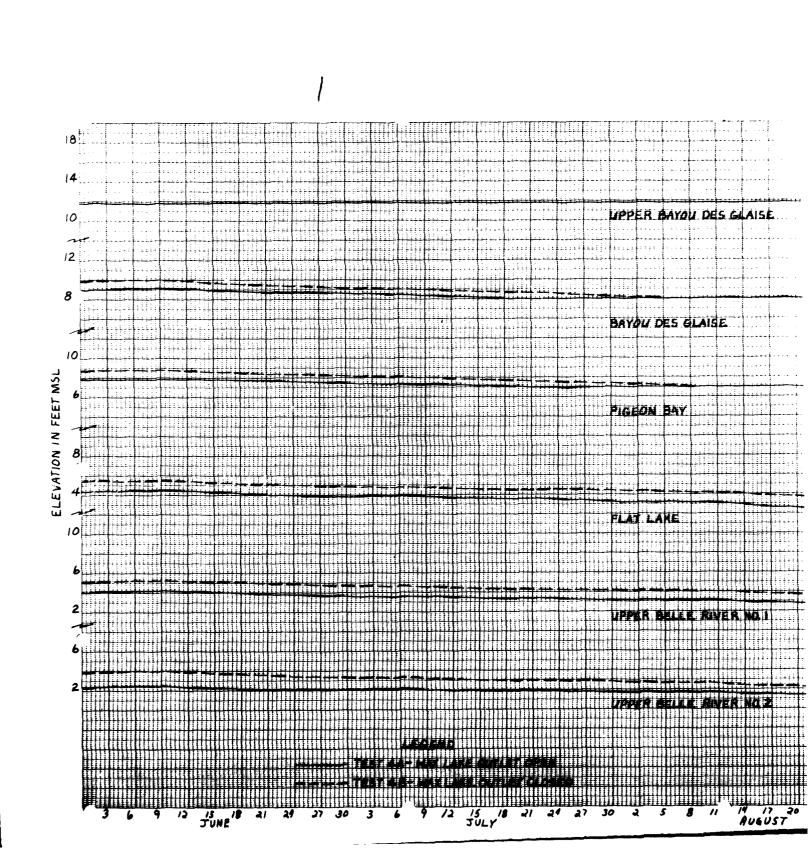


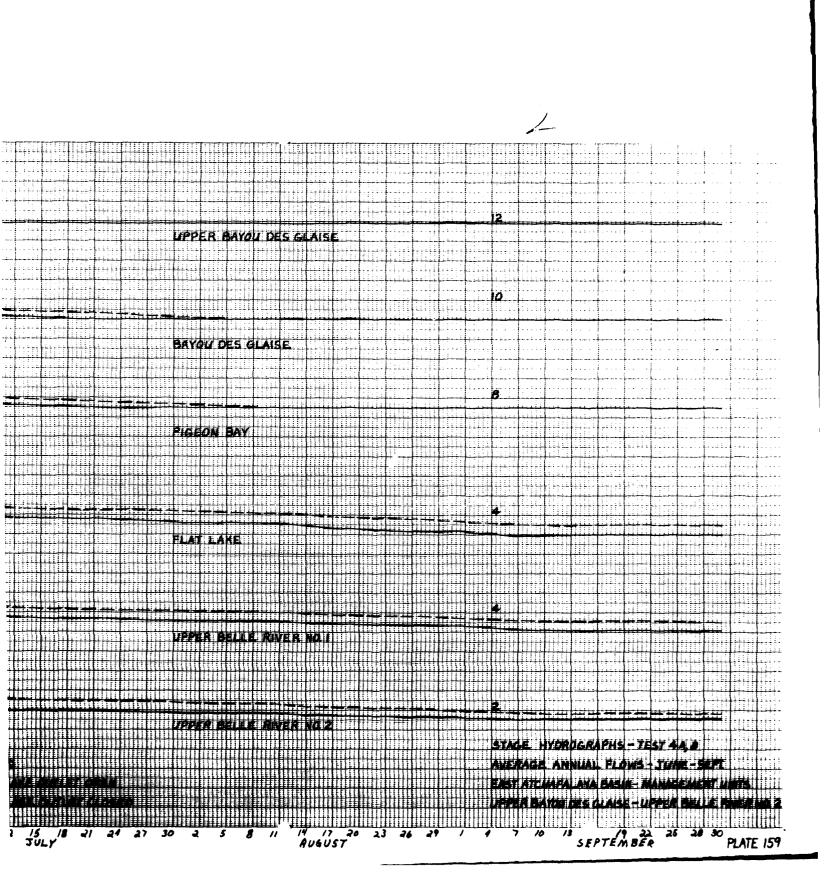


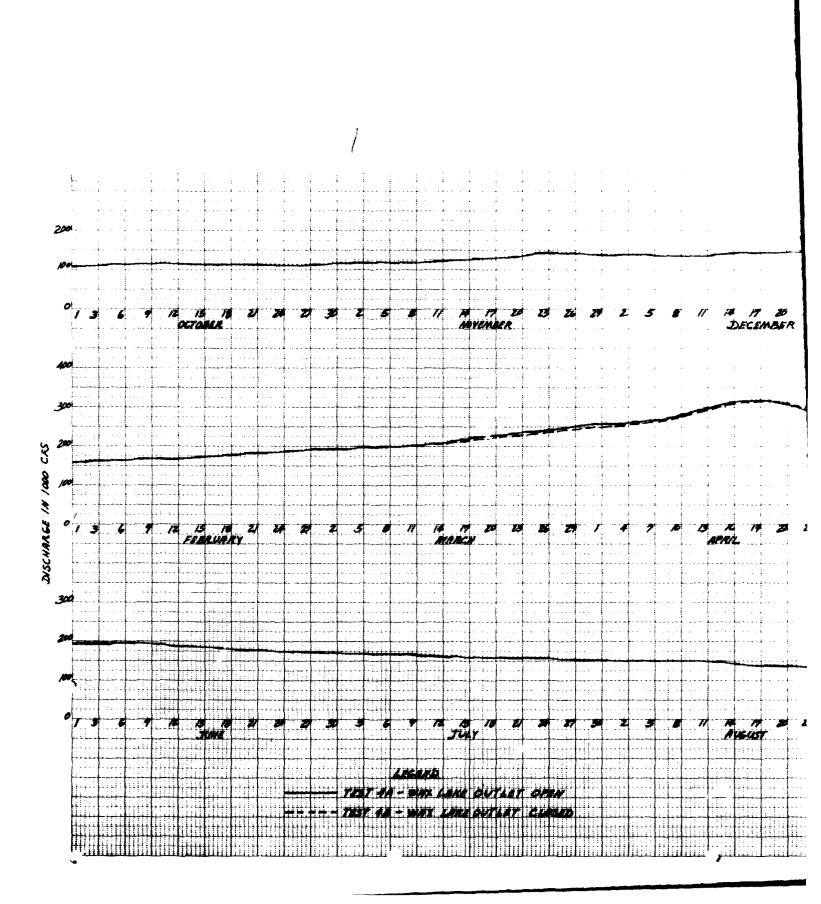
BAYOU DES GLASS DECEMBER PLATE 157











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In accordance with letter from DAIN RDC, DAEN ASI dated 22 July 1977, Subject Farsimile Tatalog Cards for Laboratory Technical Publications, a facsimile outsing card in Library of Congress MARC format is reproduced below.

Poster, James E

Effects of closing Wax Lake Butlet and construction management unit and channel training levees in the Atchafalaya River Basin / by James E. Foster, James V. Allen. Vicksburg, Miss.: U. S. Waterways Experiment Station; Springfield, Va.: available from National Technical Information Service, 1980.

5, [8] p., [160] leaves of plates : ill.; 36 cm. (Mississippi basin model report - U. S. Army Engineer Waterways Experiment Station; 31-8)

Prepared for U. S. Army Engineer District, New Orleans, New Orleans, La., under LMNED-79-46.

1. Atchafalaya River. 2. Floodways. 3. Hydraulic models. 4. Levees. I. Allen, James V., joint author. II. United States. Army. Corps of Engineers. New Orleans District. III. Series: United States. Waterways Experiment Station, Vicksburg, Miss. Mississippi basin model report; 31-8. TA7.W34b no.31-8

Key to Numbering of MBM Reports*

	Office for Which Conducted									
Test of Report or Test	General	LMVD	MRD	ORD	SWD	UMVD	Outside Agencies	Reserved for Future	Division	Basin- wide
General Reports	l-series									
MBM Board Meetings	2-series									
Papers in Technical Journals	3-series									
Reserved for Future	4-series									
Reserved for Future	5-series									
Reserved for Future	6-series									
Reserved for Future	7-series									
Reserved for Future	8-series									
Reserved for Future	9-series									
Verification Studies	10-series	11-	12-	13-	14-	15-	16-	17-	18-	19-
Reservoir-Operation Studies	20-series	21-	22-	23-	24-	25-	26 -	27-	28-	29-
Levee Studies	30-series	31-	32-	33-	34-	35-	36 -	37-	38-	39-
Flood-Routing Studies	40-series	41-	42-	43-	44-	45-	46-	47-	48-	49-
Changes in Regimen	50-series	51-	52-	53-	54-	55-	56-	57-	58-	59-
Reserved for Future	60-series									
Reserved for Future	70-series									
Miscellaneous Studies	80-series	81-	82-	83-	84-	85-	86-	87-	88_	89-
Combined Purpose Studies	90-series	91-	92-	93-	94-	95-	96-	97-	98-	99-

First digit indicates type of report or test; second digit (for 10-series and above) indicates office for which performed. Numbers following dashes indicate chronological order in respective series.



Key to Numbering of MBM Reports*

	Office for Which Conducted										
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